

# MANUFACTURERS RECORD

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER

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## OPTIMISM RINGING TRUE AS STEEL.

THE steel trade has been called the barometer of business. There is a marked increase in orders and in operations. More men are obtaining employment and the trade movement is progressive and encouraging, and we should do everything practicable to sustain and advance it.

So spake James A. Farrell, president of the United States Steel Corporation at Pittsburgh. He knows steel and fittingly referred to the steel trade as the barometer of business. But he did not stop at steel. He has other reasons for his faith. Here are a few:

Apparently the tide has turned, and each day records a marked improvement in the general situation.

Our internal conditions are better than they have been for a long time, and, due to easier financial circumstances and an export movement of unexampled volume in food-stuffs and other commodities, a balance of trade is piling up which will place the business of the country upon firm foundations.

The steel trade is improving and the outlook is encouraging. The lumber industry is likewise.

There is evidence of increasing merchandise traffic on the railroads, of opportunity to earn more money, to establish credit and make expenditures for materials and equipment, which means activity in manufacturing lines dependent upon railroads for orders.

Building has been quiet, but investors are coming to realize that money can be saved by starting operations now, material being available at unusually attractive prices.

The United States is today the chief granary of Europe. The prices received should insure for our farming population an unprecedented measure of prosperity, and it has come to be an American axiom that when our farmers are prosperous the whole country prospers.

American dollars will be spent in America this summer as never before, for few Americans will elect to seek their holiday pleasures in war-ridden Europe. Other items in our annual bill to Europe will be radically reduced.

We are the only nation at the present time in a position to assume the role of the world's banker.

What are we going to do about it? President Farrell points the way:

I feel safe in saying that if you will all strain a point just now and trade a little more with each other and talk encouragingly as to conditions, rather than pessimistically, the business of the country will take on a momentum which will carry us into better times, and, what is more important, create more employment for labor, which has borne its share of the burden in the depression. Our best efforts should be put forth to stimulate activity in business and do everything practicable to increase the number of working people, not only in the industries in this community, but throughout the whole country.

As business men let us give our attention to solving industrial unrest by creating work by toiling and spinning and creating a normal circulation in the arteries of commerce. The problems of capital and the problems of labor have an intimate relation; both need employment.

Our problems are national, our opportunities are national; let us bear more of national common sense and see if we cannot get back to work. Public sentiment and governmental inclination unmistakably favor a live-and-let-live attitude toward business.

In brief:

Get busy.

Get busy—now.

## A HIGHWAY TO HAPPINESS.

CHATTANOOGA expects a large attendance in the first week of April upon the conference called by the Governor of Illinois of the Governors of Indiana, Illinois, Kentucky, Tennessee, Georgia and Florida to further the project of a great continuous highway from Chicago to Miami, Fla. The highway, parts of which are completed, looks to the convenience and pleasure of the increasing number of tourists by automobile who find relaxation from usual business in extended trips through parts of the country little known to them. Travel by railroad train, while more rapid as a means of passing from one part of the country to another, does not offer the opportunity to become acquainted with the people of the sections traversed or even to know much about the country. Much of the real pleasure of travel is thus lost. Touring by automobile, however, leaves the length of the day's journey, the direction to be taken and the stops to be made at the choice of the traveler. His decision must be based primarily upon the kind of highway provided. The Chicago-Miami route ought to open up new attractions in the South to the automobilist, and, as a means of benefiting that section materially, ought to be complementary to the Quebec-Miami route. Pleasures in the South for tourists have hardly begun to be realized by the American people. The South has only begun to appreciate the practical advantages in making the most of its scenic, historic and climatic resources as attractions for tourists. The greater the number of its north and south highways, terminating either in the West or in the East and leading to its pleasure resorts of mountain or seaside, the more temporary and permanent benefit the South will derive. Its highways to happiness for others will be highways to profit for itself.

## MISSISSIPPI VALLEY RIVER TRANSPORTATION.

IN connection with plans for the River Terminal Conference of the Mississippi Valley States, to be held in St. Louis, Mo., next week, John H. Bernhard, the engineer who has successfully demonstrated the eminent practicability of self-propelled barges for river navigation, has advanced before the Board of Public Service of St. Louis an offer calculated to make effective one of the objects of the Conference. It is expected that the meeting at St. Louis will result in a permanent organization to bring about the establishment of river terminals in preparation for through navigation for domestic and foreign commerce from the Mississippi, Missouri and Illinois rivers to New Orleans. Mr. Bernhard, whose work in making possible a line of self-propelled barges between the Alabama coal fields and the Mississippi has aroused nation-wide interest, and who has been a long-time advocate of the full utilization of the inland waterways of the country, has, as the representative of a group of capitalists, offered to construct on the St. Louis levee and equip a warehouse at a cost of about \$600,000, to be sold to the city at its actual cost. The warehouse is then to be leased, according to the offer, to Mr. Bernhard's company, which proposes to operate a barge line between St. Louis and New Orleans, at an annual sum sufficient to pay the interest on bonds to be issued by the city in payment of the purchase price and to create a sinking fund for the redemption of the bonds in twenty years, after which the city will own the property. In consideration of the transfer the city is to provide terminal facilities for handling freight to and from St. Louis by the barge line and adequate connections with the railroads entering St. Louis.

Whatever may be the outcome of this offer, it

seems to be a working basis for the development of a comprehensive system of transportation on the navigable rivers of the Mississippi Valley, the ultimate end of the Conference at St. Louis. Within the next ten years millions of dollars are to be spent by the Federal Government upon the improvement of the waterways in the Valley. Leaders in the Conference movement argue correctly that, for the full enjoyment of the facilities thus to be provided or increased, proper terminals must be established in advance. The Bernhard plan for St. Louis is a suggestion that may set a desirable precedent to be adapted to the conditions of other cities that may be evolved as important river terminals.

## SOUTHERN TEXTILE ADVANTAGES.

FROM the days, sixty years ago, when the Southern textile industry began to make itself felt in the cotton-goods market of the country until the present hardly any advance of the kind in the South has missed meeting the self-deluding criticism in other parts of the country that it is impossible for the South to do this or that in cotton manufacturing. One of the most recent suggestions, made not in an unfriendly spirit, was to the effect that climatic conditions in the South are against successful competition with England in the textile industry. This was referred to G. Gunby Jordan, president of the Eagle & Phenix Mills of Columbus, Ga., who, in response to a request of the MANUFACTURERS RECORD, has written as follows:

It is true that England has rather an ideal climate for the manufacture of cotton goods, owing to the fact that the moisture incident to that country, being so well surrounded by water, makes its spinning qualities very good.

But the mills in this country—practically all of them that are up to date—are equipped with humidifiers which artificially supply the humidity desired, and there is no trouble at all about spinning fine numbers or having the atmospheric conditions produced that will make the finest cotton goods.

More than that, there are many mills located, as several are in Columbus, immediately below the falls of the Chattahoochee River, where over the several dams a large volume of water is poured all the time, making the air naturally humid.

There has never been any trouble about getting humidity in the atmosphere, nor do we think any mill in this age has any such trouble.

Our impression is that some of the mills in the Piedmont region of the South were pioneers in the use of humidifiers, just as they were quick to equip themselves with the best machinery of latest design. The advantage in such equipment has usually been overlooked by outside critics of Southern mill conditions, who have been either unable or unwilling to recognize any factors except those likely to bolster up this campaign or that waged against the Southern textile industry in the past twenty years. The very fact of location in the South, which is an element of strength for the cotton-manufacturing industry there, might tend to hamper the development of the industry to a point of successful competition with England were it not for the resources which science and invention offer for the overcoming of natural drawbacks. The wonderful progress in diversification in cotton manufacturing made by the South in the past 25 years is in itself the proof that nothing that England has accomplished in textiles, either in machinery, in supply of raw materials or in climatic conditions, can be called impossible for the South, which is now spinning as much cotton as it exported as late as 1875. The one great advantage which England has is in its textile operatives, representing the cumulative experience of four or five successive generations in the industry, and, consequently, a high degree of efficiency. That, too, must come to the South in time, and it may be that the close of the

European war may find all industry in the countries at war so demoralized that thousands of trained workers will turn to this country for immediate and permanent employment. If the mill managements of the South can succeed in inducing some of those thousands to come to the Southern mill centers, the difference between textile conditions in England and in the South will be greatly lessened.

#### THE CURSE IN TAXATION LEGISLATION.

**S**PIRIT of satire must have dictated the following document assuming to be a bill for the consideration of the General Assembly of Virginia and proposing to tax only the cities of the Commonwealth for the support of the State government:

An act to make, force and compel citizens of the cities of Virginia to support the Commonwealth and to relieve the citizens of the counties from any duties or burdens in connection with State government.

Whereas God made the counties and man made the cities; and whereas it is meet and just that property of divine creation should be free and exempt from human taxation; and whereas the good people of the counties far outnumber the bad people of the cities; and whereas it is the essence of democracy that the might of the majority is, and ever should be, the right thereof;

Therefore, be it enacted by the General Assembly of Virginia, That on and after the first day of January, in the year of our Lord nineteen hundred and seventeen, all taxes for the support of the State government shall be paid from taxes on real and personal property of individuals, firms and public and private corporations in the cities of the Commonwealth.

And be it further enacted, That the General Assembly may, in its discretion, make the tax on said properties in the cities any amount, not in excess of ten thousand cents on \$100 of valuation.

And be it further enacted, That, in order to carry out substantially the provisions of this act, on and after January 1, 1917, no inhabitant of any cities of this Commonwealth be allowed to remove therefrom into any of the counties of said Commonwealth, except by permission of the Governor of this State, provided such Governor shall be a citizen of some county in the Commonwealth; but if the Governor aforesaid should by any chance be a citizen of any city of the Commonwealth, then permission for any such citizen of any city to remove therefrom to any county of the Commonwealth shall be given by the General Assembly during a regular session.

This screed is reproduced here because it is an excellent commentary by indirection upon much of the legislation, State and National, that is proposed or accomplished nowadays. Two main evils dominate prevailing taxation. One of them is due to the fact that officials responsible for taxation occupy themselves in seeking new sources of taxes instead of in seeking to eliminate from government unnecessary undertakings which have called for ever-increasing expenditures and a greater burden upon taxpayers. The other arises from attempts to balance inequalities in taxation by creating other inequalities, instead of reducing all inequalities to a minimum. Politics rather than business in government accounts for the culture of both evils. The more activities by government the greater number of jobs for political followers; the greater the sums to be raised by taxation the less regard on the part of the great body of voters as to the methods of expenditure of government funds if the increased tax burden is placed upon a limited class. Should that class happen to be the successful ones of the world, the act of taxation strengthens the hold of the politician upon the irresponsible mob.

Between 1903 and 1913 the population of this country increased from 80,688,326 to 96,815,253, or by 16,126,927, equal to 19.9 per cent. In the same period expenditures by National and State governments, not including millions spent by counties, municipalities and other political subdivisions of States, increased from \$1,557,809,919 to \$2,504,720,589, or by \$946,910,670, equal to 60.8 per cent. The rate of increase in expenditures by the National Government was 58.1 per cent; by State governments, 68.4 per cent. The expenditures per capita of population by States and nation combined increased from \$19.30 in 1903 to \$25.86 in 1913. The expenditures increased in ten years three times as rapidly as the population.

It is no wonder that more or less interest is developing in the question of taxation. It is no wonder that the politicians, the class of individuals principally benefited by increased taxation, should resort

to more taxation in legislation, upon the principle of using petroleum to quench a fire. Much of this is undeliberate and merely reflects a state of mind that has developed through lack of preparation for proper service to the public, and which is manifested outside of legislative bodies as well as inside. The Virginia satire is directed against the general inclination to legislate morality into some folks even though it may involve rank injustice to many others. An unwitting expression of this inclination is in the following from the *Progressive Farmer* of Raleigh, N. C.:

There is one subject about which the writer takes advanced ground, and that is with regard to taxation. We believe the time will come, and ought to come speedily, when no tax whatever will be levied on what a man earns by the sweat of his brow or the labor of his mind, but when all taxes will be imposed upon inheritances and unearned incomes. In any case, every State should plan now to raise a greater share of its taxes from the estates of the wealthy, and to that extent relieve the burdens of the struggling poor. \* \* \* We must tax the gains of thrift and industry less, the gains of chance or inheritance more.

This argument in favor of taxation of special objects overlooks the fact that in the great majority of cases those very objects are the results of thrift and industry, and that there are comparatively few incomes that have not been earned. Taxation of inheritances, however good the intent in it of accomplishing in a wrong way what might be accomplished in a right way, tends to discourage the natural instinct of a human being of intelligence to provide for himself or his family in the future. Taxation of incomes as it is attempted in this country is the veriest denial of correct principles of taxation in a democracy, and carries with it the canker that must destroy democracy if it be not removed. About the best commentary upon the tendency to class taxation is had in the words of a Congressman regarded as having some influence, who, in resisting an effort to make the Federal income tax law approach equity, said:

I venture the assertion that if Congress at the first opportunity which it has had of levying a direct tax upon the people without apportionment should levy a tax which would fall upon every citizen of the land, that tax would not stay upon the statute books longer than the first election which followed the first call of the tax collector.

So, according to a fellow-legislator, fiscal legislation for a democracy was based upon the fundamentally undemocratic principle. For he said:

We remove the taxes at the custom-house on necessaries purposely to levy a tax on wealth.

When will American intelligence and responsibility, rich or poor, arouse itself against the danger to self-government in such views of questions vital to government?

Hear the logical conclusion of the whole matter as voiced by Representative John J. Fitzgerald of New York last Saturday:

Throughout the country the cost of government is increasing at a rate far out of proportion to the increase of population and wealth. Someone must concentrate his efforts to the task of lessening the burdens of the taxpayers. Unfortunately, I appear to belong to a very old-fashioned and unpopular and out-of-date school of public finance. It is not the mode to follow the school of public finance in which I have been educated. I believe that the Government should not do those things that private enterprise can do satisfactorily. I do not believe that the Federal Government or the State government or the local government should engage in every conceivable form of activity in response to every whim of every organization or of every class or of everybody who believes it is desirable that certain things be done and appeals to the Government to do them, as it seems to be easier to obtain public funds than have sensible men devote their own resources to many things for which there is public clamor. If we restrict the activities of government to those functions that legitimately should be performed by the Government, it would eliminate a vast portion of the excessive expenditures of the Government. Until something along such lines is attempted it is useless to think of curtailing the gross expenses of government. If we do not wish to stop our activities along any particular line, but continuously seek out and encourage the Government in entering upon new activities in order to placate or to please or to mollify some particular group or party or band or interest, then we simply keep piling up the available means to absorb the revenues. The people are coming to realize that the treasury is not replenished by money that falls like manna from the

heavens, but that every dollar that is expended by the government—Federal, State or local—means a dollar collected from the pockets of the people.

It is a pity that Representative Fitzgerald did not add that as long as legislation is advanced for the confessed purpose of levying taxes upon wealth, or efforts to ensure equity in a taxation system are resisted on the ground that "the people" will nullify at the first chance, so long will the burden of taxation be increased to meet the demands of whims promoted by professional "uplifters" grabbing for easy salaries, and so long will "the people" fail to comprehend that, after all, the burden of taxation must be borne ultimately by them.

#### SUGGESTED BY WHEAT.

**W.** W. LONG, State agent of demonstration in South Carolina, is quoted as advising business organizations in their relation to grain growing as follows:

It seems to me that the first step to be taken is to obtain such local rates within the State as will facilitate the concentration of grain for interstate shipment. The natural outlets for our wheat surplus seems to be Charleston for coastwise shipments, which would have to be in sacks, since there are no facilities in Charleston for handling bulk grain on the piers; Richmond as a mill market, and Baltimore and Norfolk for export in bulk.

Would it not be better for South Carolina, if its business organizations, instead of having their minds upon the question of "natural outlets for our wheat surplus," should devote their energies to the marketing within the State of its wheat in the form of flour? In the first place, South Carolina is not raising as much wheat per capita of its population as it raised in 1860. Moreover, although it raised in 1914 wheat and corn having an aggregate value of \$34,949,000, it purchased from outside its borders wheat, flour and corn to an aggregate value of \$19,535,000. It purchased from outside \$7,748,000 of wheat and flour, \$6,414,000 more than the value of the wheat it had raised. Its acreage planted in wheat in the fall of 1914 is three times as great as that planted in 1913. But even with a yield per acre at a price per bushel equal to that of 1914 South Carolina will hardly have a wheat surplus this year if imports of wheat and flour are to be proportionately as great as those of last year.

There are portions of the South where, as a general proposition, it may be more profitable to grow some other crop than wheat. But where, as in South Carolina, wheat can be raised, and it is possible to look for profit in trebling the acreage in wheat in one year, it would seem to be the part of wisdom to plant as much wheat as possible to meet the demand for flour in the State and to convert all that wheat into flour in local mills. That is the policy, indeed, which should be extended in the case of all productive activities in the South—cotton growing and cotton manufacturing, lumbering and woodworking, metal mining and metal working, mineral production and chemical industries based upon mineral, timber or agricultural products or a combination of them. It is the essence of diversification. It is fundamental to the success of the larger campaign for the use of American materials in the production of goods to be sold in American markets. The sooner it is adopted in the South up to its limit the sooner will the South gain the industrial position for which nature has equipped it in the way of materials.

#### NOTHING NEW UNDER THE SUN.

**M**ORE than half a century ago George G. Henry of Mobile was endeavoring to introduce a machine for use upon cotton plantations to make yarns direct from seed cotton. Henry was one of the far-seers of the South, who, in the period of intense activity in many lines in the years immediately preceding the war among the States, sketched in bold colors projects which are today being carried out almost exactly as they were planned long ago and in some instances under the impression that they are original propositions. It is not surprising, therefore, to find W. E. Long of the Chamber of Commerce of

San Antonio, Tex., suggesting that every cotton gin should be equipped with spindles for making yarns to be shipped to some mill that makes cloth. His basic argument is a sound one—the plea that the gins are equipped with expensive machinery, which is used only about three months in the year, and that two-thirds of the investment in the gins is represented in equipment readily adaptable to the operation of spindles. About the only difficulty to be considered is the supply of labor for the spindles. Whether or not the suggestion will be adopted generally cannot be forecast, but it is worthy of note as a modification of the thought of Henry in Alabama a half a century and more ago.

#### "BUILD NOW" AS A CURE FOR FAINT SPIRIT.

BUILDING and real estate interests of Shreveport, La., united recently in a double-page advertisement in the Journal of that city calling upon the community to take advantage of existing conditions to undertake construction operations of various kinds. The call contained the following:

Are you holding back your wealth, Mr. Capitalist? This is the time to loosen up a bit. Are you shutting down, Mr. Manufacturer? Get busy. Things will be better pretty soon. Are you lacking in nerve, Mr. Contractor and Builder? If so, there's nothing to be afraid of. Get rid of your fears. Are you pessimistic, Mr. Merchant? Smile! Even if things are tighter than usual now, there is no indication they are going to stay that way. Act, everybody, and quit baying the moon with your pessimistic prophecies. You are poor prophets!

Secretary J. B. Babb of the Chamber of Commerce of Shreveport writes to the MANUFACTURERS RECORD that this call was issued by his organization and was inspired by an article in the MANUFACTURERS RECORD. The call is similar to efforts in many parts of the South responsive to the campaign for "Build Now" which the MANUFACTURERS RECORD has vigorously urged for several months. The campaign turns upon the conviction that nothing other will better divert the public mind of the South away from undue consideration of subjects that can tend only to encourage neglect of splendid opportunities for making public and private improvements, that the feeling of inability to seize the opportunities is exaggerated and largely without warrant in facts, and that such facts as exist in justification for the feeling must pass away as men and communities get as busy as they may.

#### Cheerful Notes Sounded.

Five hundred men to return to work for two chair companies at Marietta, Ga.

Cotton mill at Charlotte, N. C., to run night and day for five months on an order for between 250,000 and 300,000 yards of fine damask.

Contract awarded Newport News Shipbuilding & Drydock Co. for an oil-tank steamer to cost about \$1,000,000.

Orders placed in Eastern Kentucky for 218,000 crosses.

Steel companies in Alabama given orders for 10,000 tons steel rails for Chile and 7500 tons for Russia, and for 14,000 tons of steel billets for England.

#### Contract for Freight Steamer.

The Newport News Shipbuilding & Drydock Co., according to a report from Newport News, Va., has been awarded a contract by the J. L. Luckenbach Company to build a large freight steamship at a cost of about \$800,000. The ship will be 425 feet long and will have a speed of 12 miles per hour. It is intended for the coastwise trade. The Luckenbach Steamship Co. operates a line of vessels between the ports of the Atlantic and the Pacific coasts of the United States by way of the Panama Canal. Its offices are in New York, San Francisco and Los Angeles.

The assessed value of land in Arkansas is \$319,472,026, of which \$92,267,937 represent town lots. Assessed value of personal property is \$129,641,234.

## How a Coal Mining County Builds Roads

By E. J. PRESCOTT.

*Highland counties of the South have probably to face, in equipping themselves with improved highways, greater difficulties of more kinds than any other regions. For that reason a report made recently by Chairman E. J. Prescott, of the Board of Supervisors of Wise county, Virginia, in the heart of the coal-mining section on the stages of highway improvement in his county is of more than usual practical interest. Mr. Prescott, who is connected with the Stonega Coal & Coke Co., covers in his report practically all phases of the subject, and therefore his report, which is published in large part below, will be studied carefully by progressive men of regions facing problems similar to those of the Virginia county.*

Wise county lies at the eastern base of the Cumberland Mountains, in the extreme southwestern portion of Virginia, and was formed from Russell, Lee and Scott counties in 1856, and named in honor of Henry A. Wise, then Governor.

Prior to 1890 very little was known of Wise county, as there was no railroad nearer than Bristol. In 1890 the South Atlantic & Ohio Railroad, now the Virginia & Southwestern Railway, was completed from Bristol into Wise county. The first passenger train to reach Wise county was run from Bristol to Big Stone Gap, May 1, 1890.

The Louisville & Nashville Railroad reached the edge of Wise county, building from Middlesboro, Ky., during the latter part of 1890, and the tracks were completed to Norton, May, 1891.

The first shipment of coal from Wise county was made from the Inman mines on Looney Creek, a branch of Powells River, in October or November, 1890. Coal was mined and shipped from what is now Dorchester, near Norton, over the Louisville & Nashville Railroad in 1891. The first coke was manufactured and shipped from Dorchester in 1894. In 1896 the Virginia Coal & Iron Co. began the shipment of coal and coke from Stonega plant over both the South Atlantic & Ohio and the Louisville & Nashville railroads.

The Norfolk & Western Railway Co. built into the county in 1891, and was completed to Norton, the present terminus, in the latter part of 1891. Until 1897 the shipments of both coal and coke were very small.

The largest single industry in the county is the mining of coal and manufacture of coke. There are 34 coal-mining plants in the county, employing in the aggregate about 9000 men. Fourteen of these plants are equipped to manufacture coke, and have in the aggregate approximately 4000 ovens. In addition to our coal and coke plants, there is a great diversity of industries.

Wise county has sold three issues of road bonds, as follows:

County issue, dated February 1, 1911.....	\$700,000 00
Richmond district, dated March 1, 1912.....	130,000 00
Gladeville district, dated March 1, 1913.....	130,000 00

Total bonds outstanding..... \$960,000 00

All bonds are for 30 years, with option to retire at the end of 20 years, and bear 5 per cent. interest. Interest is paid semi-annually.

A county levy of 45 cents on the \$100 is assessed to pay interest and to provide a sinking fund on the county bonds, and in addition a levy of 20 cents is assessed in the Richmond and Gladeville districts, which is used to pay interest and create a sinking fund to take care of the district bonds.

The tax rate in 1914 other than State was:

County levy.....	20 cents on the \$100.
County schools.....	35 cents on the \$100.
County road.....	45 cents on the \$100.
Special county road.....	20 cents on the \$100.
District road.....	25 cents on the \$100.
Special district road.....	20 cents on the \$100.

Total..... \$1.65

The special county road levy is to make up deficit in county bond fund, and will be discontinued after next year.

The special district road levy is used to pay interest on district bonds and for sinking funds, and is levied only in Richmond and Gladeville districts.

The county levy of 20 cents can probably be reduced to 15 cents next year. This, together with the elimination of the special county levy of 20 cents, will bring our total county and district levies to about \$1.45 on the \$100.

The district road levies and district school levies vary somewhat in the different districts, but the amount shown in the above tabulation is a fair average.

Taxes paid by corporations, 67 per cent.

The proceeds from the sale of the above bonds, including interest and including county appropriations and

State aid, make a total of nearly \$1,100,000 which has been expended in constructing improved roads, steel bridges and concrete culverts, as follows:

Roads graded and drained.....	79 miles.
Roads graded, drained and macadamized-limestone.....	62 "
Roads graded, drained and macadamized-sandstone.....	8 "
Roads graded and drained, to be macadamized.....	4 "
Total roads improved.....	153 "
Steel bridges constructed.....	30 "

Road building in Wise county is, I believe, the most difficult in the State of Virginia. The county is almost entirely mountainous, and the valleys for the most part narrow, the mountainsides steep and rocky. Of course, there are a great many exceptions where the valleys are wider and where road building is not more difficult than in other sections. But taking it altogether, I do not believe there is a county in the State that has encountered the difficulties, both as to location and construction, that have been encountered in Wise county. Sufficient preliminary work was not done before deciding on the number of roads to be improved under our \$700,000 county issue. It was decided to build a definite number of miles on approximate locations without even running preliminary lines and without engineers' estimates of cost.

When bids were opened it was found that by no possibility could all of the roads be graded and macadamized as were originally intended, and the Board of Supervisors, after careful consideration, decided to grade all of the roads and macadamize the principal ones. At this time it was also found necessary to reduce the width of the roads to 18 feet in cuts and 16 feet on fills.

All of the work under county bond issue was let to contract.

A great many of the rights of way were secured before construction work actually started, but on account of the lack of time a great many rights of way had to be secured after the contractors began work, which resulted in paying out more money for rights of way than would have been done had these arrangements been made beforehand.

The question of damage to adjacent property has also been very troublesome, due to so many of the roads being located on the sides of the mountains, making it necessary to deposit large quantities of rock and other material on lands outside of the rights of way. In a great many cases timber lying below the right of way was damaged by blasting and by rocks rolling down the mountainside.

Another difficulty applying both to the construction of the roads and the laying of macadam is that the mountainsides are in a great many places full of springs, making it difficult to secure a solid roadbed.

The county was fortunate in securing the services of Mr. William F. Cocke, who had charge of all the improvement work done under the county bond issue.

Few people outside of the persons directly interested in the road construction realize the difficulties which Mr. Cocke had to encounter, but the people of the county generally do realize that our roads have been well constructed, and that the credit is due to Mr. Cocke's ability and to the hard work which he put in as county engineer.

About one-half of the Gladeville district issue of \$130,000 has been expended in grading new roads, and about one-half in constructing macadam on roads built under the county issue. All of this work was let to contract and is now practically completed.

In the Richmond district it was decided to expend practically all of the proceeds from the district bonds in constructing macadam on the roads previously graded. When bids were opened it was found that on about two-thirds of the roads to be macadamized no bids had been received, probably due to the fact that limestone had

to be purchased and shipped, some of it over two railroads, making it very difficult to figure on the cost of the work. The county put in a bid for the work, and at this time it is nearly completed, there being about four miles which cannot be reached this season. This work has been done under the supervision of Mr. G. W. Scott, an experienced engineer and road man. This force account work is proving very satisfactory, the cost, so far as we are able to compare, being much less than the bids submitted by contractors.

Our macadam has been of different widths, the more important roads being 12 feet wide, others 10 and 9 feet, the road between Big Stone Gap and Appalachia, constructed before bonds were issued being the widest in the county, 14 feet. I have been converted to the 9-foot macadam road if a 14-foot road cannot be built. Teams and autos cannot pass on a 10 or 12-foot road without getting one wheel off the stone, and unless a double track can be built there is no use in building a track and a half.

To illustrate the sentiment for good roads, at the election November 22, 1910, the total vote against the issue of our \$700,000 county bonds was 176 out of a total of 2332 votes cast. Nearly two-thirds of the full vote of the county was cast on the bond question, notwithstanding the election followed so shortly after the regular Congressional election, and the sentiment of the county in favor of the bond issue was so one-sided. At the election to determine the issue of the district bonds the sentiment as expressed by the votes cast was still stronger for good roads.

The benefits of good roads are particularly noticeable in Wise county, due in a measure to the fact that we had almost no roads before the construction of our present system. It is true we had some very rough roads, with numerous fords impassable in high water, and with heavy grades on which only a half or a fourth of a usual load could be hauled.

There were only a few miles that were smooth enough to drive with any pleasure. To illustrate the condition of our old roads, there were only two automobiles in the county prior to the building of the macadam road between Big Stone Gap and Appalachia and Norton and Wise. There are now between 300 and 400, and buying every day.

Benefits, briefly stated, are:

1. Increased value of farm lands.
2. Reduced cost of transporting farm products to market, as well as reduced cost in all kinds of hauling.
3. Benefits to farmers in a social way.
4. Has enabled a large number of our citizens to own their homes and to go to and from their work on bicycles, motor-cycles, automobiles and buggies.

The benefits to our working people can hardly be overstated. Hundreds of the men working at the coal mines have purchased small tracts of land several miles from their place of work, have built their own homes and find time to cultivate a small acreage in addition to their daily work.

5. Has materially benefited our public schools. 1908—Enrollment, 6900; attendance, 45 per cent.; 1913—Enrollment, 8501; attendance, 65 per cent. 1908—Number of buildings, 79. 1914—Number of buildings, 74.

This increased attendance is attributed by our county school superintendent in a large measure to our new road system.

6. The improvement in the properties along our highways is very gratifying. The farmers and other property-owners are building better fences, painting them, farm buildings are being improved, the old fence corner cleared out and the whole county is putting on new life. While this improvement is only in its beginning, it is already so marked that one would hardly recognize the county as the same.

7. Benefit to the coal operators. Officials can reach the plants in one-fourth the time it formerly took, and even more than this, the improvement in the living conditions of the employees has already proved of great value to the operators. When a workingman is so situated that he can own his own home he is worth two of the class of men who change about from plant to plant and never get really settled.

8. The actual pleasure to everybody of being able to drive or ride or even walk along a beautiful highway cannot be expressed in dollars and cents.

The ox team, which used to be the prevailing draft animal in Wise county, has entirely disappeared from our highways.



PROPOSED MUNICIPAL BUILDING FOR RICHMOND, VA.

#### Richmond's Proposed Municipal Building.

The MANUFACTURERS RECORD presents herewith an illustration of the proposed municipal building for Richmond, Va. The structure will be 248x138 feet, with a shaft rising 316 feet above the sidewalk. It will contain an auditorium seating 4200 and a library, both of which will be on the first floor, one on each side of the main shaft. The shaft will be used for court purposes, and will contain courtrooms, clerks' offices, judges' offices, filing-rooms, etc. The building will be of fire-proof construction, with limestone or granite on the exterior, steel frame and concrete slabs. It was designed by Carneal & Johnston of Richmond, who were selected in competition with local architects by a joint commission of the City Council, acting with the advice of Alfred C. Bossom of New York, consulting architect. The cost of the structure, without mechanical equipment, will be about \$800,000, and working drawings will probably be prepared within a short time.

#### Want a Grain Elevator at Florence.

Chamber of Commerce,  
Florence, S. C., February 6.

*Editor Manufacturers Record:*

The business men of Florence have for some time been discussing the proposition of the erection of a grain elevator, and are disposed to back the enterprise financially if we can find some man who is familiar with the grain business and who will join us in the enterprise, becoming financially interested in it himself to some extent and handling the business for us and for his own benefit. A good man with knowledge of the grain business would find this a splendid opportunity, because Florence will be the center of the grain business

throughout this section of the country, and there is every indication of a good volume of business, but nobody in this section knows anything whatever about handling grain, and they hesitate to go into it unless they could secure such a man. The money necessary for the elevator could be put up in 24 hours if we could secure a responsible man who would undertake to manage it.

The Chamber of Commerce is promoting the enterprise, and any communication addressed to this body would be very much appreciated.

HARTWELL M. AYER, Secretary.

#### Continuing Its Irrigation Enterprise.

The Texas Land & Development Co., Plainview, Tex., has resumed operations and plans to improve and place under irrigation a total of about 12,000 acres during the present year. This acreage will be divided into 100 complete irrigation farms, with all improvements, including house, barn, well, windmill and irrigation plant for pumping water from the immense underground supply in this district. Work is already in progress and the company has four large rotary well rigs in the field at the present time. This district has enjoyed excellent crops during the past two years, and, with present prices of grain stuff, the outlook for the Plainview district is said to be very promising.

Ellis Soper, engineer-constructeur, of Chattanooga, Tenn., informs the MANUFACTURERS RECORD that he was the author of the drawings upon which were based illustrations of three proposed reinforced concrete bridges for Rome, Ga., published in the MANUFACTURERS RECORD of January 7.

## Important Discovery of Gas in Southwest Texas

By ALEXANDER DEUSSEN, Assistant Geologist, United States Geological Survey.

A very strong gas well has been recently discovered at White Point, on Nueces Bay, about 12 miles south of Sinton, in San Patricio county, Texas. The well was drilled by the White Point Oil & Gas Co., composed of local capitalists. It probably produced as much as 30,000,000 cubic feet of gas per day shortly after the sand was penetrated. The gas is said to have been encountered at depth of 2255 feet.

The pressure at first was so great that 200 feet of four-inch drill pipe was blown from the hole and twisted together as so much wire. The gas issued in enormous volume for three or four days, and could not be capped. The subsurface material at the point where the well is located is a medium soft yellow clay. A crater was excavated by the outrushing gas, and into it the derrick was drawn and battered to pieces. The crater, at the time of the writer's visit, was about 100 feet in diameter and 60 feet in depth at the center. Artesian water from strata overlying the gas sand entered the crater and discharged into the bay through a notch cut into the rim. The only thing at the present time which prevents the overflowing water from cutting the crater rim to the level of the bay (and thus permitting the bay water to enter the well) is the debris from the derrick, which has accumulated at the point of overflow and formed a protective dam. The passage of the gas causes a very violent ebullition of the water, at times shooting it to a height of 10 or 15 feet, and presents all together a remarkable spectacle.

Three other wells had been drilled previously in this immediate vicinity for oil or gas. The first one was drilled by the Guffey Company in 1906 to a depth of 1200 feet. Subsequently a well was drilled not far distant from this first one to a depth of 400 feet, and it is claimed that considerable gas was struck. The White Point Oil & Gas Co. began operations in 1913. A well was drilled to a depth of 1830 feet and abandoned. Some gas and salt water were encountered at 1830 feet. Well No. 2—the discovery well—was located about 500 feet south of No. 1, and was started in the early part of 1914. A small "blowout" occurred in this well at a depth of 1695 feet in April. In August the well reached a depth of 2150 feet, and was then temporarily shutdown. Drilling was subsequently resumed, and the well carried to a depth of 2255 feet, where the gas sand was penetrated on November 12, 1914.

Shortly after the gas was struck gas also began to flow from the other wells in the immediate vicinity. A considerable quantity of sand, clay and mud was ejected from the White Point Oil & Gas Co.'s well No. 1. It is probable that after the casing was forced from the discovery well the gas, being under such great pressure, made its way through the sands to the adjacent wells.

The well at White Point is a very important discovery; it is possibly as strong a gas well as has thus far been found in Texas. It appears to be reasonably certain that oil in commercial quantity will be found in fairly close proximity to this well.

It is claimed that a deposit of sulphur outcrops close to the first well drilled by the White Point Oil & Gas Co. At this spot the writer picked up a number of fragments of sulphur, but it is not certain that these fragments were not blown from the well. In either event—whether blown from the well or outcropping at the surface—the occurrence of the sulphur probably indicates that the structure with which the gas is associated is a salt dome similar to the ones in which the oil was found at Spindletop, Jefferson county; Sour Lake, Hardin county, and elsewhere in the coastal plain of Texas. This salt dome, in turn, probably is associated with two concealed faults which intersect each other beneath White Point or very close thereto. That local uplift has occurred in this immediate vicinity is suggested by the constriction in Nueces Bay which exists at this point, the uplift here apparently having narrowed the bay.

It is probably that the gas sand itself belongs to the upper Eocene or the Oligocene, though it may possibly be a part of the Miocene. Among the materials blown

from the well the writer collected some subangular black flint pebbles which are similar to ones that occur in the base of the Pleistocene and possibly also in the Pliocene, and some fragments of green calcareous clay and siliceous limestone which have a strong resemblance to similar materials in the Frio clay at the top of the Eocene.

If the structure is a true salt dome, as it appears to be on the basis of present information, the conclusion seems valid that the field, like the other fields of the coastal plain associated with salt domes, will not prove to be very extensive but will cover only a comparatively small area. On the other hand, the great gas pressure suggests that gushing wells with large individual yields similar to those secured in the early history of Spindletop may be found.

Preparations are now making to drill actively in the vicinity. Leases have been secured on the surrounding

Sinton, San Patricio county; near Kingsville, in Kleberg county; at Crowther, McMullen county; in the northeastern portion of Duval county; at Campbellton and Pleasanton, in Atascosa county; west of Gonzales, in Gonzales county, and southeast of Eagle Pass, in Maverick county. Oil occurs in small quantity in wells near Sweden, in Duval county; at Crowther, in McMullen county; on Leon Creek, 10 miles south of San Antonio; near Somerset, in Bexar county, and south of Dunlap, in Medina county. Asphalt outcrops occur in Uvalde and Zavalla counties.

It would seem from these numerous occurrences and the general geologic features of the area that favorable opportunities present themselves for the development of oil and gas deposits in quantity at a number of places in Southwest Texas. The field is still a virgin one for the drill.

### IN BURLEY TOBACCO DISTRICT.

Methods of Sale in Louisville and Other Kentucky Markets.

[Special Correspondence Manufacturers Record.]

Louisville, Ky., February 2.

The burley tobacco-growing district, comprising about 40 counties in Northwestern Kentucky, of which Louisville, Lexington and Maysville are the leading markets, adds approximately \$25,000,000 to the South's annual agricultural production.

Last season, which, being an average one, ran from December to April, there were sold over the burley belt warehouse floors, according to the consensus of the opinion of several of the leading tobacco men in the three leading markets, approximately 220,000,000 pounds of tobacco. The price last year, due to the exceptional quality, was unusually high, but this season, so far, there has been a decided falling off in quality and consequently the price. However, in view of the abundance of this year's crop, it is probable that just as much money will be made by the farmers.

The predictions by the leaders in the three markets vary very little as to the probable total tonnage of this year's crop. The predictions of Helm Glover, secretary of the Louisville Tobacco Board of Trade; W. L. Petty of Lexington, one of the oldest dealers in the State, and Charles M. Jones of Maysville, a pioneer in the use of the loose-leaf system of sales, all ran between 240,000,000 and 270,000,000 pounds. The war has not materially affected the sale of tobacco in this district, as practically all of it is manufactured and used in America.

There are two methods—the hogshead and loose leaf—in the sale of tobacco in the burley belt. The oldest is the hogshead method, which is used exclusively here in Louisville. The hogsheads, which hold from 1000 to 1500 pounds of tobacco each, are packed by the farmer and shipped to the sales warehouses. There it is "prized" and graded by an expert. It is then placed on the floor for sale by an auctioneer to the highest bidder, the latter being one of a group of buyers from the leading tobacco manufacturers that spend the entire season at the markets.

According to Robert W. Brown, managing editor of the Louisville Times, and who has written a very interesting book called "Louisville and Kentucky," dealing with the facts and figures on those two communities, "Louisville is the largest tobacco market in the world—largest in weight and value and of widest importance in its affiliations. It is to the price of tobacco grown in America what Liverpool is to grain."

The loose-leaf sales system was started in Kentucky in 1907, and is a new method as compared with the hogshead way. The two leading markets where this method is used extensively are Lexington, located in the center, and Maysville, in the most northerly part of the burley section. There are about 50 other but smaller loose-leaf markets in the district.

The loose-leaf system seems to represent the most modern method of selling tobacco, and with its inauguration came commercial development along several related lines. This method has been responsible for a large part of the building construction that has taken place during the last seven years in Northwestern Kentucky. There are from one to a dozen sales warehouses, to say nothing of the redrying plants, in each of the 50 or more



GAS WELL OF THE WHITE POINT OIL & GAS CO. ON NUECES BAY, SAN PATRICIO COUNTY, TEXAS.  
DISCHARGE PROBABLY NOT LESS THAN 30,000,000 CUBIC FEET A DAY.

acreage, including the bay land to the south, and rapid development may be looked for from this time forward.

If no oil is found the gas itself cannot fail to be of great value. Corpus Christi, a town of some 10,000 inhabitants, is located across the bay, some nine miles distant. A number of other small towns are close by. San Antonio, with a population of 105,000, more or less, lies 240 miles to the northwest. A ready market will be found for all gas that may be developed.

The gas seems to be comparatively free from sulphur, and will probably compare favorably in heating value with other natural gas on the market in Texas. A test on its calorific value has been made by the Bureau of Economic Geology of the University of Texas, which showed about 450 B. T. U. per cubic foot, but the sample contained such a large admixture of air that the test cannot be regarded as indicating the true quality of the gas.

The find at White Point serves to emphasize the value of Southwest Texas as a region worth careful prospecting for the location of oil and gas deposits. At Reiser, 27 miles east of Laredo, in Webb county, a number of gas wells occur which supply Laredo with natural gas. A well, estimated to produce 12,000,000 cubic feet of gas per day, has been brought in lately on the Jennings ranch in Zapata county, about 30 miles south of Aguilares. Gas also occurs in small quantity in wells at



BURLEY WAREHOUSE, LEXINGTON, KY.

Note reinforced steel construction; dimensions 606x170 feet; F. J. Manley, Lexington, architect.



CENTRAL TOBACCO WAREHOUSE, MAYSVILLE, KY.

A typical one day's sale of 1350 baskets of tobacco, averaging 200 pounds each, on the floor.

markets, and all have been constructed since the advent of the new method of tobacco sales.

The farmers, as a rule, haul their tobacco on wagons to the loose-leaf markets. There it is placed on the floors of the warehouses, after it is properly sorted and graded and placed in small piles—small as compared to the capacity of a hogshead. The auctioneer, followed by the buyers from the prominent manufacturers, pauses only a moment over each pile to get the highest bid. The farmer receives his check as soon as the sale is over, which generally lasts from 20 to 60 minutes. The buyers, who live at the markets during the season, attend from one to fifteen sales per day.

After the sale the tobacco is sent to the local redrying plant of the manufacturer, where it is prepared for indefinite storage or shipment. The redrying plant is one of the allied lines of industrial activity that has supplemented the loose-leaf system, and several such have been established over the district, with a large outlay of capital.

Another phase is the financing. Of late the sales warehouse men have taken over almost entirely the matter of financing the farmer and his crop during the growing period. In this way the banker is relieved of a duty that has heretofore been a trying one. The warehouse man, with his experts out over the district, is in a better position to tell how much a farmer should be allowed to borrow on his crop. Thus the financier is sure of that tobacco being sold over the floors of his warehouse. The banker, in turn, takes care of the paper.

Lexington has redrying plants, storage warehouses and 11 saleshouses.

Maysville has seven saleshouses, all of which are modern structures constructed so as to incorporate all the best ideas for convenience in the sale of tobacco. Maysville is a modern little city established at the foot of a large hill that ends at the Ohio River. The town was so laid out that one street-car line running east and west for about four miles serves whole community adequately.

The burley district is entirely separate, and grows a different grade of tobacco as that raised in the black belt, which is located in Southwestern Kentucky.

Roy G. BOOKER.

#### Want a Secretary.

Chamber of Commerce  
Covington, Va., February 6.

#### Editor Manufacturers Record:

Covington has taken on new life and has formed "The Alleghany Boosters Club," with practically every business man in the town and county a member. We want now to employ a wide-awake up-to-date secretary, who knows how to tell the outside world about the wonderful hidden resources of our community. Will you assist us in getting such a man?

ALLEGHANY BOOSTERS CLUB.

#### IN CUSHING OIL FIELD.

#### Rapid Expansion of Mineral and Industrial Activities.

[Special Correspondence Manufacturers Record.]

Cushing, Okla., February 5

The great oil field of the world, located near Cushing, Okla., has brought about conditions that have entirely eliminated the effect of the general business depression that the greater part of the business world has experienced on account of the European war.

The Cushing oil field was producing only about 17,000 barrels of oil daily one year ago, but is today (according to the State oil inspector) producing 263,000 barrels daily, and the end is not anyways near in sight.

There were 1600 wells drilled in the Cushing field one year ago to what are known as the Layton and Wheeler sands. The Producers' Oil Co. at that time drilled the first well to a deeper sand known as the Bartlesville sand, and since then 420 wells have been drilled to this sand. A number of these wells have produced as high as 12,000 barrels of oil daily.

The oil from this sand is the highest grade oil ever discovered in such large quantities.

While there are 24 pipe lines into the Cushing field, it has been impossible to get the oil out of the field as fast as it is produced, and at times there has been more than 500,000 barrels of oil in earthen storage.

There has been around \$20,000,000 spent in building steel storage tanks and pipe lines in the last few months to care for this oil.

The White and Sinclair interests have built 82 tanks of 55,000 barrels; McMann Oil Co., 60 tanks; Quaker Oil & Gas Co., 30 tanks; Devonian Oil Co., 40 tanks; B. B. Jones, 20 tanks; J. H. Markham, Jr., 28 tanks; Prairie Oil & Gas Co., 60 tanks; Gulf Pipe Line Co., 15 tanks; Gunsberg & Forman, 40 tanks; C. B. Shaffer, 20 tanks; W. C. McBride, 30 tanks; Black Panther Oil Co., 5 tanks; Cushing Gasoline Co., 5 tanks; T. B. Slick, 11 tanks, and several other smaller companies, making a total of more than 400 steel tanks of 55,000 barrels each.

There is about 1,800,000 barrels of oil in steel storage in the Cushing field at this time.

In addition to this, there are either operating or building at Cushing 10 refineries: The Cushing Refining Co., 3000 barrels; Colonial Refining Co., 2500 barrels; Consumers' Refining Co., 3500 barrels; New State Refining Co., 2000 barrels; Hillman Refining Co., 500 barrels; Jane Oil & Gas Co., 3000 barrels; Chautauque Oil & Gas Co., 3000 barrels; International Refining Co., 3500 barrels; the Miller Refining Co., 1500 barrels, and near Yale, Okla., a few miles north of Cushing, the Twin States Refining Co., 2500 barrels.

The Milliken Oil Co. is laying a six-inch pipe line to its refinery in Vinita, Okla., and the Cosden Company has six-inch line into its refinery in West Tulsa. The

White and Sinclair interests have closed a deal with the Dutch-Shell Company to put in a line to some point in Louisiana to connect with a refinery to be built there on the coast that will handle 25,000 barrels of oil daily. This will be about 600 miles long.

The Cushing Traction Co., incorporated a few months ago, is rushing work very fast on an electric line in the city of Cushing and to run 14 miles through the oil field. F. C. Brown of Independence, Kans., is the president of this road; R. D. Long, general manager of the Muskogee Traction Co., is the general manager, and it is understood that the owners of the Muskogee and Shawnee Oklahoma traction companies are largely interested in the Cushing Traction Co.

The Missouri, Kansas & Texas Railroad Co. is at work on the erection of a new brick and stone passenger station, and the Santa Fe Railroad Co. has the plans drawn for a new passenger station.

The receipts of each of these roads have gone above \$200,000 per month at the Cushing offices for several months.

The shipments of oil out of Cushing, both refined and crude, are between 150 and 200 cars daily.

The Postoffice Department has notified the local post office in Cushing that as soon as sidewalks are provided for the postmen that free delivery service will be installed. More than five miles of sidewalk has been put down within the last 100 days. There is also a new postoffice building to be built, and the decision of location has been announced by the department. Lease was taken for 10 years.

The population of Cushing two years ago was 1000, and today is conservatively estimated at 6000.

Many new brick and stone business houses are under construction, and in the residence part of the city the saw and hammer can be heard in every direction.

There are a great number of gas wells in the Cushing field producing 60,000,000 feet of gas daily and having a pressure of from 1200 to 1500 pounds to the square inch. One of the wells was so great in volume of gas and pressure that it was impossible to get men to go to work controlling it for a number of months. The roar made by the gas as it came from the well could be heard for at least six miles, and one could not tell they were making any sound at all hollowing at the top of their voice a distance of three-quarters of a mile away. This great amount of cheap fuel is what is drawing the great numbers of refineries to this location, and when the business conditions of the country over are adjusted will undoubtedly cause many other manufacturing plants to locate here.

F. B. LIPPINCOTT.

The twenty-second annual convention of the National Oil Mill Superintendents' Association will be held June 2-4 at Galveston, Tex. H. E. Wilson of Wharton, Tex., is secretary of the association.

## TO ADVERTISE VALUE OF LIME.

## Outcome of the Convention of the National Lime Manufacturers' Association.

Features of the thirteenth annual meeting of the National Lime Manufacturers' Association, held in Washington, D. C., last week, were the discussions of lime as a plant food and the use of hydrated lime in building operations. A large membership was in attendance, and the meeting was said to have been the most successful in the history of the association.

John J. Porter of the Security Cement & Lime Co., Hagerstown, Md., who has been active in promoting a broader development in the use of lime for agricultural purposes, read a paper in which he claimed a substitute for imported potash had been found in that like properties necessary for plant growth can be liberated by treating the soil with a specially prepared lime. As about \$25,000,000 worth of potash is imported into this country a year, such a discovery, he said, is of enormous value to the agricultural interests of the country. Because of the fact that Germany could not supply potash on account of the war, as practically all the commercial potash comes from that country, Mr. Porter stated that now was the time for an extensive and vigorous advertising campaign to educate the farmer regarding the value of lime as a fertilizer. On the strength of Mr. Porter's discussion an appropriation of \$18,000 was made for giving publicity to this method of using lime to liberate potash contained in the soil.

Another very interesting address on the subject of agricultural lime was made by Thomas M. Gaithright of the Ohio C. Barber Fertilizer Co. of Barber, Va., owner of the wonderful limestone resources in Alleghany county, Virginia, from which it is claimed 1000 tons a day for 300 years can be secured. Illustrating the advancement of lime for fertilizer purposes, Mr. Gaithright said his company was now furnishing some of the largest fertilizer manufacturers in the United States with this product, which is used as a filler. He emphasized the fact that all lime could not be utilized for such a purpose, but only lime that contained the proper chemical elements could be used.

"Potash and Lime in Agriculture and the Arts" was the title of an instructive paper read by G. W. Coggeshall, secretary of the Bureau of Industrial Research, Washington, D. C. He mentioned that experiments were now under way by the bureau which would probably be of great value to the lime industry in the near future.

Mr. Lawrence Hitchcock of the Kelley Island Lime & Transportation Co. of Cleveland, O., discussed the development and superior qualities of hydrated lime plaster and predicted a growing demand for this product. Henry S. Spackman touched on the same subject in his treatise on "The Possibilities of Hydrated Lime Products for Plastering Purposes." Other subjects dealing with lime as applied to the building trades were: "Method of Measuring the Rate of Set of a Lime Mortar" and "Method for Measuring the Consistency of a Lime Mortar," by W. E. Emley.

In a special address on "The Business Outlook" Secretary Wm. C. Redfield of the Department of Commerce predicted prosperity in business, and said that America now had an opportunity of securing more business than ever before. He further stated that since October readjustments of credit crippled by the war had been effected.

Other subjects brought before the association were: "The Duff System of Burning Lime," by W. H. Bradley; "Interesting Data and Tests on the Operation of Gas Producers for Lime Burning," by J. C. Whetzel; "Generalities of Crushing" and "Hydraulic Lime in America," by Joseph Boero; "Electricity About the Lime Plant," by R. E. Scott; "A Modern Hydrating Lime Plant," by Richard K. Meade; "Measuring and Regulating Heat in Limekiln," by Abram T. Baldwin, and "Simplicity in Burning and Handling a Limekiln," by J. J. Urschel.

Officers elected for the ensuing year by the National Lime Manufacturers' Association are: President, W. E. Carson, Riverton, Va.; vice-presidents, Martin Deely, Len, Mass.; J. F. Pollock, Kansas City, Mo., and A. H. Lauman, Pittsburgh, Pa.; secretary, Fred K. Irvine, Chicago; treasurer, C. W. S. Cobb, St. Louis; executive committee, Charles Warner, Wilmington, Del.; Lawrence Hitchcock, Cleveland, and Bernard L. McNulty, Anniston, Ala.



The Connally Building, Atlanta.

Construction will begin February 15 on another large office and store building for Atlanta. This building will be located at Whitehall and Alabama streets, and will be erected by the Connally Realty Co. It will be 80x102 feet, 5 stories at present, and later carried to 16 stories. Contract has been awarded to Wells Bros. Company, Washington, D. C., for the five-story structure, which is estimated to cost \$250,000 without mechanical equipment and \$300,000 complete. It will be of fireproof construction, with tile and slag roof, and equipped with electric elevators. W. L. Stoddart of New York prepared plans and specifications. An accompanying illustration presents a view of the building as it will appear when finally completed.

## Southern Building in January.

The following figures, as compiled from reports from representative cities, present a brief summary of Southern and Southwestern building operations during January. Permits were issued in Richmond, Va., during the month for construction estimated to cost \$159,840. As compared with January, 1914, these figures show a decrease of \$60,128 in the cost of new improvements and \$13,566 in the cost of alterations and repairs. A total of 40 permits was issued in Winston-Salem, N. C., during the month, representing a cost of construction of \$96,827, as compared with 34 permits issued in January, 1914, representing a cost of construction of \$41,032. Winston-Salem's record for January, 1915, is considered good in view of the fact that the cost of construction for which permits were issued in any one month of the last five months of 1914 did not exceed \$40,000. Permits were issued in Raleigh for construction to cost \$22,763, and in Greensboro, N. C., for construction to cost \$16,800. Permits were issued in Birmingham, Ala., to the number of 205, representing a cost of construction of \$72,178. As compared with January, 1914, these figures show a decrease of 80 in the number of permits and \$178,052 in the cost of construction. In Jacksonville, Fla., a total of 46 permits was issued, representing a cost of construction of \$100,830, and in Tampa 124 permits, representing a cost of construction of \$53,180 for new buildings and \$12,932 for repairs. Permits were issued in Miami, Fla., for construction to cost \$66,700, an increase as compared with January, 1914, of \$15,230. The cost of construction for which permits were issued in Lake Charles, La., during the month was estimated at \$7110. A total of 353 permits was issued in St. Louis, representing a cost of construction of \$1,094,673. As compared with January, 1914, these figures show a decrease of 225 in the number of permits, but an increase of \$240,551 in the cost of construction. Permits were issued in Galveston, Tex., to the number of 152, representing a cost of construction of \$285,486.

A total of 81 permits was issued in Houston for permanent structures estimated to cost \$158,544 and 241 temporary permits, representing a cost of construction of \$20,956. As compared with January, 1914, the aggregate for the month shows a decrease of \$27,000. In El Paso a total of 80 permits was issued, representing a cost of construction of \$220,225. As compared with January, 1914, these figures show a decrease of 32 in the number of permits, but an increase of \$79,310. Ninety-nine permits were issued in Dallas, representing a cost of construction of \$140,000, and 39 in Fort Worth, representing a cost of construction of \$90,705. Fort Worth's figures show an increase of \$26,440 as compared with January, 1914. The cost of construction for which permits were issued in Beaumont was estimated at \$89,168, as compared with \$31,163 for the corresponding month last year. As compared with January, 1914, operations in Waco show a large decrease, the figures for January, 1915, and January, 1914, being \$21,075 and \$81,257, respectively. Permits were issued in the District of Columbia for construction estimated to cost \$470,328, as compared with \$461,760 for January, 1914. Operations were distributed as follows: Northwest, \$228,221; northeast, \$20,420; southeast, \$4800; southwest, \$115,000; county, \$135,031; alterations and repairs, \$66,456. The cost of new improvements for which permits were issued in Baltimore was estimated at \$415,676; additions, \$25,551, and alterations, \$38,000.

## Land for Factory Sites Available.

Chamber of Commerce,  
Norfolk, Va., February 5.  
*Editor Manufacturers Record:*

As a means of inducing factories to locate in Norfolk, the Norfolk & Portsmouth Construction & Development Co. of Virginia has donated to the Chamber of Commerce of this city about 15 acres of land to be used as the Chamber sees fit in helping infant industries. This is the first time that the Chamber of Commerce or other similar organization in this city has been aided in this direction, and the proposition promises to be fruitful, inasmuch as the Chamber of Commerce is now corresponding with several concerns that are looking for a location. The property is just outside the city limits, has local switching connections, is a part of a subdivision, being developed for factory workers and factories, and is backed by a number of Norfolk's most prominent business men.

FRANK H. WEST,  
Publicity Manager.

## Propose to Build Interurban Line.

At a recent meeting of the Rayville (La.) Progressive League stock was subscribed, according to a letter, to build an interurban railway from there southward 22 miles, and President Theo. J. Coenen is now receiving estimates on material and is preparing data. The right of way is being obtained; two surveying parties are in the field, and it is hoped to begin construction soon.

This projected railway would open up a region containing some of the finest soil in Louisiana, it is said, and which is much in need of transportation facilities.

## Plans for Canning Industry.

The Texas Land & Development Co., Plainview, Tex., writes to the MANUFACTURERS RECORD as follows:

"We are interested in the establishment of factory for the purpose of canning asparagus, berries, tomatoes, etc., and would appreciate it if you can furnish us with the names of companies who would likely be interested in the establishment of a factory of this kind. Would also like to be advised as to where small canning outfits can be secured for co-operative work."

## Cotton Batting and Wadding Machinery.

W. C. Dempsey, 219 Albert street, Belleville, Ont., Canada, wants estimates on equipment of machinery necessary for manufacturing cotton batting and cotton sheet wadding.

## Good Roads and Streets

### SOUTHERN HIGHWAY ACTIVITIES.

#### Details of Week's Progress in Improvements in City and Country.

Further details of road and street undertakings and bond issues mentioned below are given under the headings Construction Department and New Securities, published elsewhere in this issue.

The MANUFACTURERS RECORD invites from its readers information about road and street work projected or under way, photographs of good roads and discussions of matters pertaining to the betterment of the highways of the South.

#### Bonds Voted.

Corpus Christi, Tex.—City voted \$100,000 bonds for street paving.

Cuero, Tex.—De Witt county voted \$50,000 bonds to construct about 14 miles of roads.

Denton, Tex.—City voted \$10,000 bonds to improve streets.

Parkersburg, W. Va.—City voted \$200,000 bonds to pave streets, etc.

#### Bonds to Be Voted.

Anderson, Tex.—Grimes county votes March 3 on \$65,000 bonds to construct roads in Road District No.

Bradenton, Fla.—Manatee County Sarasota-Venice District votes March 15 on \$250,000 bonds to construct roads and bridges.

Bryan, Tex.—Brazos County District No. 1 will vote March 3 on \$400,000 bonds for road construction and District No. 2 for \$60,000.

Cleburne, Tex.—City votes March 6 on \$100,000 bonds to pave streets.

Miami, Fla.—Dade county votes March 16 on \$100,000 bonds for road improvements.

Pittsboro, N. C.—Chatham county, Oakland township, votes March 9 on \$20,000 bonds to construct roads; Centic township votes \$50,000 bonds.

Paducah, Ky.—McCracken county votes February 27 on \$300,000 bonds to construct roads.

5, Precinct 1.

Taylorsville, N. C.—Alexander county votes March 9 on \$150,000 bonds to construct roads.

Williamsburg, Ky.—Whitley county votes April 24 on \$250,000 bonds to construct about 80 miles of roads.

#### Contracts Awarded.

Baton Rouge, La.—East Baton Rouge Parish Police Jury awarded \$100,918.72 contract to improve roads in District No. 2.

Galveston, Tex.—City awarded contract to pave 10 blocks of streets.

Marshall, Tex.—City awarded \$17,356.80 paving contract.

Mobile, Ala.—City awarded \$4720 contract to resurface Capitol street with asphalt.

Richmond, Va.—Henrico county awarded \$8161 contract for road improvements.

#### Contracts to Be Awarded.

Cushing, Okla.—City will pave 11 blocks in business district.

Clarksdale, Miss.—City opens bids March 3 to construct three miles of gravel road; \$20,000 available.

Clarksdale, Miss.—Coahoma county opens bids March 3 to construct 3½ miles of gravel road; \$60,000 available.

Dublin, Va.—City opens bids February 20 to construct street curbing at a cost of \$2000.

Frederick, Md.—Frederick county will construct 2½-mile link of State road; estimated cost \$35,000.

Franklin, La.—St. Mary parish will construct about 60 miles of road.

Fort Worth, Tex.—City invites bids until February 16 for 4167 square yards of bitulithic, rock asphalt or vitrified brick pavement.

Jacksonville, Fla.—City receives bids until March 8 to place about 388 square yards of pavement on concrete base, with cement curb and gutter.

Midlothian, Tex.—City will pave 18,335 feet of sidewalks; about 5000 feet of concrete crossings at intersection of streets.

Palatka, Fla.—Putnam county will build 12 miles of brick or other hard material road.

Sarasota, Fla.—City will lay about 10,000 feet of additional sidewalks.

Sapulpa, Okla.—City will construct six blocks of alley paving; \$10,000 available.

### American Road Builders.

George W. Tillson, consulting engineer of the president of the Borough of Brooklyn, N. Y., was elected last week president of the American Road Builders' Association. Other executive officers elected are: First vice-president, A. W. Dean, chief engineer of the Massachusetts Highway Commission; second vice-president, Austin B. Fletcher, State highway engineer of California; third vice-president, S. Percy Hooker, State superintendent of highways of New Hampshire; secretary, E. L. Powers, editor Good Roads; treasurer, Major W. W. Crosby, consulting engineer, Baltimore, Md.; directors for three years, E. A. Fisher, city engineer of Rochester, N. Y.; A. R. Hirst, State highway engineer of Wisconsin; Joseph W. Hunter, first deputy commissioner, Pennsylvania State Highway Department; Frank F. Rogers, State highway commissioner of Michigan; William R. Smith, general manager of the Lane Construction Corporation, Meriden, Conn., and H. M. Waite, city manager of Dayton, O.

## RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

### Freight Rate Revision in the South.

A statement to the public has been issued by the Southern Railway, the Atlantic Coast Line, the Seaboard Air Line, the Central of Georgia Railway and the Louisville & Nashville Railroad concerning a general readjustment of railroad freight rates throughout the Southeastern territory, which has been made necessary, it is stated, by a recent order of the Interstate Commerce Commission enforcing the long and short haul clause of the interstate commerce law. It is signed by the presidents of the several companies, and says that in complying with the order issued by the Commission some raising of rates, as well as reductions, will be necessary.

"Obviously," says the statement, "the removal of inequalities condemned by the commission, by reductions only, would result in disaster to the carriers. This fact is recognized by the commission, which, in its review of the situation, stated:

"It is entirely clear that the revenues of a large percentage of the lines in the Southeastern territory would be so impaired by such a procedure as to make it impossible for them to meet their operating expenses, taxes and fixed charges and leave their stockholders even a moderate return."

"It is equally obvious," continues the statement, "that it would be unfair to punish the carriers in confirming to a changed public policy, for acts which at the time of commission were approved by public opinion."

"Hence in working out the order of the commission such elevation of rates to the depressed points must accompany reductions to the much larger number of intermediate points as well at least preserve the revenues of the carriers."

"The task of revision is no easy one. It has been undertaken in loyal effort to conform to the law, as now interpreted, and to be fair to all."

Rates within the States which do not conform to the principle of the long and short haul will be taken up by the railroads with the State railroad commissions, respectively.

### New Equipment, Etc.

Illinois Central Railroad has ordered 25 more Mikado locomotives from the Lima (O.) Locomotive Corporation, making a total of 75 engines purchased by the line within a month.

Pennsylvania Railroad is building between 6000 and 7000 freight cars in its own shops at Altoona, Pa. Passenger equipment to be built there includes 48 coaches, 10 baggage and mail cars and 10 baggage cars, all of all-steel construction.

Baltimore & Ohio Railroad's order for 25,000 tons of rails was distributed to the Maryland Steel Co., Sparrows Point, Md.; Cambria Steel Co., Johnstown, Pa.; Carnegie Steel Co., Pittsburgh, and Illinois Steel Co., Chicago.

Chicago, Burlington & Quincy Railroad is reported in the market for 40 to 50 locomotives, 1200 box cars, 300 stock cars and 200 gondola cars.

Birmingham & Tuscaloosa Railway & Utilities Co., Tuscaloosa, Ala., will, it is reported, buy 4 passenger cars this year.

Diamond Coal Co., president J. S. Shannon, Cordova, Ala., wants to buy rails for line to mines.

Columbia Railway, Gas & Electric Co., Columbia, S. C., is expected to purchase several cars.

### Railroad and Other Reference Works.

Two new volumes have just been issued by Poor's Railroad Manual Co., 535 Pearl street, New York. They are "Poor's Analyses (First Series)" and "Poor's Summary of Investment News." They present in bound form the daily and weekly parts of the Manual Service during the nine months which ended December 31, 1914. The "Analyses" cover the operations of 41 companies—railroad, industrial and public utility corporations—and there is included in the book an article entitled "Shall American Railway Credit Be Destroyed?" The "Sum-

mary" reprints the news items which appeared in the daily summary from April 1 last to the end of the calendar year, and they are arranged in alphabetical order so that they may be quickly found for reference. All this late information is of value to financiers or other business men, as well as to investors and others desiring to estimate the worth of securities.

### Southern Railway's Earnings.

The Southern Railway Co. has issued its statement of earnings and expenses for the last six months of the calendar year 1914, showing gross revenue \$32,765,576, decrease as compared with the corresponding period of 1913, \$4,216,263, or nearly 11½ per cent.; operating expenses \$24,538,336, decrease \$1,026,108, or a little more than 4 per cent.; net revenue \$8,227,240, decrease \$3,190,355, or nearly 28 per cent.; operating income after taxes, etc. (taxes decreased slightly more than 2½ per cent.), \$6,943,781, decrease \$3,165,225, or nearly 31½ per cent.

There was spent for improvements to the roadway and structures during the same period \$4,436,265, or \$2,953,612 more than was expended for the same purpose in the last six months of 1913.

It is to be noted that the operating income is the sum remaining after payment of only those expenses incident to the actual operation of the railway and of taxes; it takes no account of charges for hire of equipment, rentals of leased lines, terminals and other facilities, and interest on the bonds of the company, all of which costs are charges against operating income.

### Fredericksburg to Brady, Tex.

Construction of the projected extension of the San Antonio, Fredericksburg & Northern Railway from Fredericksburg, Tex., northward is expected to begin this year, according to a report from San Antonio, which says that \$360,000 in bonds will soon be issued. R. A. Love, president of the line, is quoted as saying that at least 125 miles will be built and that work will be undertaken notwithstanding money market conditions. M. H. Trice of San Antonio is receiver of the property, which is now described as earning a fair percentage upon the money invested in it, and there is a demand for more equipment. It appears to be thought the first extension will be from Fredericksburg to Brady, about 65 miles. Proceedings to terminate the receivership are anticipated.

### Stone & Webster's Manual.

Stone & Webster, 147 Milk street, Boston, have issued their Manual for 1915, which describes briefly the various electric railway, electric light, gas and water power companies under the direction of the Stone & Webster Management Association, giving their capitalization and earnings for the year 1914 and much other information of value. A number of maps are bound in the little book, which is handsomely and substantially bound in leather, with gilt lettering.

### Buckhannon & Northern.

A report from Fairmont, W. Va., says that the Buckhannon & Northern Railroad Co. expects to finish and put in operation its Pricketts Creek branch to Fairmont by April 1. This will open up a new route between Fairmont and Pittsburgh. The tunnel on this extension is about a mile long, and it has just been completed. At the annual meeting officers were elected thus: President, J. M. Schoonmaker; vice-president, J. J. Turner; secretary-treasurer, J. T. Blair, all of Pittsburgh; chief engineer, S. D. Brady of Fairmont; auditor, O. E. Kennedy of Pittsburgh; counsel, W. S. Meredith, Fairmont.

### 1350 Miles of Eggs.

The opportunities for building up the poultry industry throughout the South are well illustrated in what has been accomplished in the territory surrounding

Morristown, Tenn., from which 1350 miles of eggs were shipped during 1914. The records of Southern Railway Co. show a total of 325 solid cars shipped during the year. These contained a total of 130,000 cases, or 46,800,000 eggs. Adding the shipments made in mixed cars and by express and parcel post, it is estimated that the total production from the Morristown district exceeded 50,000,000 eggs, worth, at the average retail price, more than \$1,250,000.

If laid end to end in a straight line these eggs would cover a distance of 1350 miles, or the distance from Morristown to the Panama Canal.

One hundred and seventy-five cars of live poultry, 53 cars of dressed fowls and a large number of small lots sent by freight and express were shipped during the year, the total of solid cars of poultry and eggs being 533. The total value of poultry products shipped from the district during 1914 is well over the \$2,000,000 record of 1913.

### Hagerstown & Frederick Railway.

The report of the Hagerstown & Frederick Railway Co., which operates the electric railroad between Hagerstown and Frederick, Md., with branches to nearby points, was submitted at the recent annual meeting of stockholders, and shows that during the year 1914 the total operating revenues, that also include the receipts from gas and electric business, were \$399,723, increase as compared with the preceding year \$19,197; total operating expenses \$248,544, decrease \$16,645; operating income \$151,179, increase \$35,842; gross income \$158,055, increase \$42,163; deductions from income \$117,104, decrease \$2059; surplus \$40,650, increase \$45,121, for there was a deficit of \$4471 in 1913. President Emory L. Coblenz of Frederick, who was re-elected, called attention to the fact that the company had been working with success to reduce expenses without detriment to operation and maintenance.

### New Car-Building Shop.

The Cincinnati, New Orleans & Texas Pacific Railway is completing a new passenger car-building shop at Chattanooga, and it is expected to be finished by February 15, and ready for use some time in March. Concrete and steel are the principal materials employed in the construction of the shop, which measures 300x100 feet. The floors, as well as the walls, are of concrete. There are two pairs of railroad tracks within, with a supply car track between each pair. They have a capacity of 12 large passenger cars. All the walls are finished in white, so as to reflect light and make illumination as complete as possible. Most of the work was done by the railroad company's forces, with J. F. Conneron as engineer of construction.

### Railroad and Iron Development.

J. T. Long, president of the Ozark Valley Railway Co., Commerce Trust Building, Kansas City, Mo., says that it is intended to extend its road, which was formerly the Williamsville, Greenville & St. Louis Railway, for a distance of 10 to 20 miles within the next year or so. It is now 35 miles long from Williamsville via Greenville to Cascade, Mo. Headquarters are at Kansas City, and there is also an office at Williamsville.

Continuing, President Long says: "We are connected with some land companies, and are going to put in some small charcoal furnaces along the line of this road, which passes through very rich undeveloped iron-ore lands, there being plenty of timber for charcoal, which will make it very profitable for making charcoal iron."

### Sale of Ocala Northern Railroad.

The Ocala Northern Railroad, 54 miles long from Ocala to Palatka, Fla., via Fort McCoy, has been sold at master's sale, by an order of court, to the highest bidder, who is C. A. Marshall, president of the Assets Realization Co. of New York, who purchased the property for the bondholders at \$175,000. A report from Ocala, in stating the result of the sale, also says it is

understood that a number of improvements will be made within six months. The Ocklawaha extension was bought by the Ocala Manufacturing Co. for \$7500. The officers of the road prior to the receivership were E. P. Rentz, president; J. H. Burroughs, auditor and treasurer, and W. B. Denham, general manager.

### Rock Island Statement.

The statement of the Rock Island Railroad system for the six months ended December 31, 1914, shows total operating revenues \$28,234,550, increase as compared with the corresponding period of 1913, \$1,737,238; total operating expenses \$28,597,923, increase \$1,084,294; operating income after taxes \$7,986,876, decrease \$77,637.

The month of December displayed the following: Total operating revenue \$5,888,205, increase as compared with the same month of 1913, \$279,200; total operating expenses \$1,654,765, increase \$526,151; operating income after taxes \$960,088, decrease \$245,042.

## TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the MANUFACTURERS RECORD. We shall be glad to have such matters at all times, and also to have any general discussion relating to cotton matters.

### The Cotton Movement.

In the first six months of the present season, according to the report of Secretary Henry G. Hester of the New Orleans Cotton Exchange, the amount of cotton brought into sight was 10,125,453 bales, a decrease under the same period last season of 2,011,867 bales. The exports were 3,733,179 bales, a decrease of 2,657,213 bales. The takings were, by Northern spinners 1,537,335 bales, a decrease of 372,894 bales; by Southern spinners, 1,961,425, a decrease of 222,521 bales. In 189 days of the present season up to February 5 the amount brought into sight was 10,520,214 bales, a decrease of 1,821,761 bales. The exports were 4,119,408 bales, a decrease of 2,394,712 bales. The takings were, by Northern spinners, 1,606,216 bales, a decrease of 356,083 bales; by Southern spinners, 2,022,369 bales, a decrease of 214,264 bales.

### Textile Notes.

John R. Lackey, Walnut Cove, N. C., contemplates establishment of hosiery mill, and is interested in prices on machinery.

Muscogee Manufacturing Co., Columbus, Ga., is reported as considering erection of addition for bleaching-room, and it is said the plans have been prepared.

Perkins-Massee Hosiery Mills, Columbus, Ga., contemplates improvements to plant, including installation of steam plant to operate both mills; may also install additional machinery to increase capacity.

Anchor Duck Mills, Rome, Ga., will build a 200x100-foot addition, with a 50x40-foot ell, costing \$20,000. Contract for this building work has been awarded to the Gallivan Building Co., Greenville, S. C. Machinery costing \$35,000 will be installed by the Anchor company.

Brookside Mills, Knoxville, Tenn., will build a 74x50-foot two-story mill-construction addition to its cloth-room, and has awarded the contract to J. M. Dunn & Son of Knoxville. The company will also build a 135x45-foot additional cotton warehouse.

Bibb Manufacturing Co., Macon, Ga., will invest about \$60,000 for improvements to mill No. 1 at East Macon. Gallivan Building Co., Greenville, S. C., has contract to remodel the old building, which is 500 feet long, and erect an additional brick structure 132 feet long by 80 feet wide. In this building additional machinery will be installed.

## MECHANICAL

Illustrations and descriptions having news value pertaining to developments in machinery, mechanical devices and inventions will be considered for use in this department.

### Glass Brick Manufacturing.

At the proposed glass-brick plant, recently reported in the MANUFACTURERS RECORD to be built at Huntington, W. Va., by the Glass Brick Co., 411 First National Bank Building, Cincinnati, O., will be developed practically a new industry, and the permanent addition of glass brick to the building material world seems to be assured. Requirements of building materials are that they shall be light and lasting. As glass is comparatively light and the crushing strength is 1800 tons to the square foot, it seems to fill these requirements. Glass is non-porous, and is a non-conductor both of electricity and heat. Decayed buildings everywhere are practical examples of the life of the glass element. A single sheet of glass will wear out a score of buildings and then be young.

It is said the first year of labor in conducting experiments in the manufacture of glass bricks by Charles B. Lawton of Pittsburgh produced glass bricks costing \$34 apiece. Then two years more of experiments were required before the bricks could be made on a commercial basis, and more time was consumed before the principle of making bricks in many shapes was perfected.

All of these difficulties have been overcome, and it is reported that glass bricks are now used on hundreds of jobs throughout the United States from the Northern limits of Wisconsin to Southern Texas and Florida, and show no ill-effects from extreme cold or heat. Railways have used the material in tunnels and subways, hospitals in their culinary departments as well as in halls and supply-rooms. Glass bricks are used in the construction of office buildings, jails, power-houses and fireplace and bathroom brick work, and many other lines of building operations.

### Clark Leak Indicator.

Through locating leaks in water lines underground, by house-to-house inspection, the Clark leak indicator, manufactured by the H. W. Clark Company, manufacturer of the Clark meter box and water-works appliances, of Mattoon, Ill., is said to be indispensable to the water-works manager. As a single house service, using a  $\frac{3}{4}$ -inch pipe under the average working pressure, will carry about 18,000 gallons of water per day, under usual conditions of service this pipe may have in it underground a very large leak, such that reduces the pressure to, say, four or five pounds, and representing a loss of 80 per cent. of the clearing capacity of the pipe, the water in this leak will amount to approximately 15,000 gallons per day or 5,475,000 gallons a year, which, at 25 cents per thousand gallons, amounts to \$1368. Possible total losses in underground service pipe leaks in an ordinary water-works plant can thus be realized.

Referring to the illustration, it will be noted that the connections on the indicator are at the top, so that when the instrument is in engagement for testing purposes readings are readily taken. The connection is of a universal type, adapting it to instantaneous engagement with any kind of a water orifice, screw threads being provided for attachment to hydrants, still cocks and hose bibbs, and a soft rubber insert always in place (used as a gasket on screw-joint connections) provides means for making water-tight joint by compression with any kind of a bibb or orifice, round, oval or irregular shape. With this universal connection tests can be made quickly at every place of inspection.

The construction of the Clark leak indicator is special, as required for this severe service, as in such service it is subjected to severe water hammer, the sudden introduction of pressure, and the equally sudden release of

sum. All Clark leak indicators are furnished complete in a tan leather case.

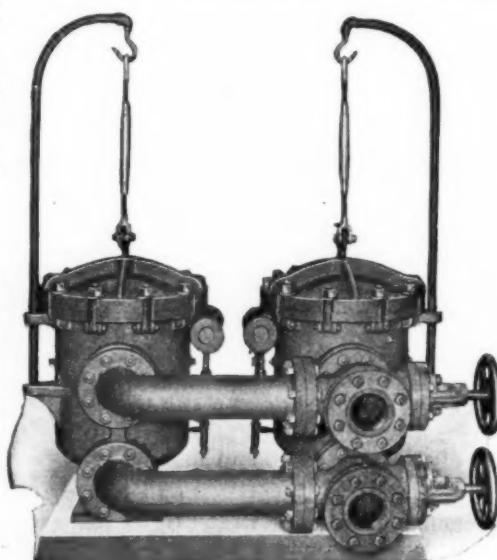
For detecting extremely small leaks in service pipes, through sound, the Clark "Sonofone," a new instrument developed by the Clark Company, is recommended for use in connection with the leak indicator. The Clark "Sonofone" is of the watch-case type, and is very sensitive, for the reason that in its construction the detecting rod is entirely free from contact throughout its entire length, thus carrying a distinct vibratory sound from the pipe directly to the diaphragm. A suitable carrying case is furnished for the "Sonofone," and a combination case is also furnished for both instruments.

### Blackburn-Smith Twin Filter.

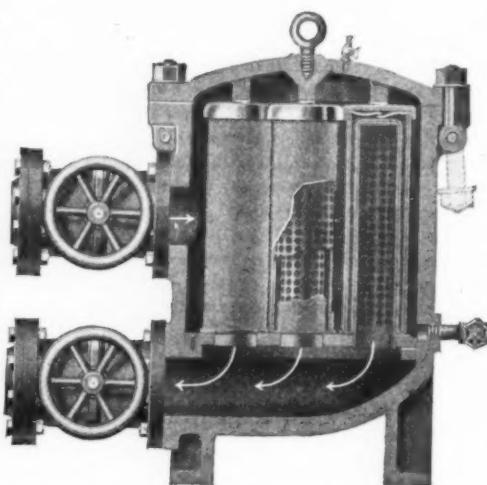
A new type of Blackburn-Smith feed-water filter and grease excavator, having twin bodies controlled by a single set of inlet and outlet valves, is now being built by James Beggs & Co., 38 Warren street, New York. The ever-increasing number of plants which carry loads varying greatly at different times, or which operate 24 hours a day, has necessitated the design of a filter which would have considerable flexibility as to capacity, and

seat type valves are used, with the disc working between the seats self-seating.

Filter chests, which are the same as in the single



BLACKBURN-SMITH TWIN FILTER.



SECTIONAL VIEW OF BLACKBURN-SMITH FILTER.

which would permit of the cleaning of one part while the other is in operation. It is readily seen that if a filter of this type is selected of such size that either side alone can carry the regular load, then the two sides can be thrown in during the peak load, thus permitting the thorough filtration of all the water at all times, and without interference by the necessary cleanings.

By the turning of both valves to one limit by-passes the corresponding body, and the other body is by-passed in turning both valves to the other limit, thus permitting the alternate operation and cleaning of either side.

type of Blackburn-Smith filter, are divided into an inlet and an outlet chamber by a partition carrying the filtering cartridges. Each cartridge consists of two concentric perforated brass cylinders so covered with linen terry cloth that two uniform separated and successive filtering surfaces are put into the path of all entering water. Opening of the filter for cleaning is facilitated by the use of a large cover held by swing bolts. During the cleaning of the filter a crane and turnbuckle lifts, swings and holds the cover with a minimum of labor.

### Iron, Steel, Beams, Chemicals, Etc.

Jose Gost, Balmes, 123, Barcelona, Spain, writes to the MANUFACTURERS RECORD as follows:

"I have received your periodical. Our firm, at your service at all times, is engaged as agent and representative of various people, and we have agencies for Spain and Portugal in many exclusive lines. The principal products we handle are manufactures of iron and steel and other metals; drugs and chemicals are also in our line, and I hope that you will feel inclined to recommend me to your people as an agent. My references are: Credit Lyonnais de Barcelona, J. Reitmayer & Co., Brussels, and A. Birbenstock, Montreuil, France. My firm also handles, to a certain extent, perfumery, and we are able to do something in this line as agent. We have an order from a client of ours and ask you to get the price c. i. f. Alicante for 200 tons of beams (villas or otherwise called poutrelles) from 80 to 300 millimeters and about 9 meters in length. I beg to have the proposals made to me in such shape to include a commission of 2 per cent., naming the place of manufacture and the conditions of payment. I will thank you very much for giving me attention in regard to this important matter."

### Bolivia Needs American Products.

Denniston & Co., La Paz, Bolivia, write to the MANUFACTURERS RECORD as follows:

"It is possible to do business in this country on the following terms and conditions: All manufacturers will have to make direct shipments against acceptance of 90 days sight drafts, as it is impossible to do business under any other terms. Concerns here, having always been conceded these terms from European houses, prefer not to make any purchases rather than accept any other terms of payment. It will also be necessary for manufacturers of dry goods, shoes, hardware and all merchandise of this class to forward a complete line of samples, as it is impossible to obtain any order without showing the clients the class of goods which they are buying. If you can bring us in contact with manufacturers who desire to do a direct order business here on the terms outlined above, we to be the agents for them here, we believe that such a proposition would prove to be a very profitable one for all concerned, as owing to the war we could secure large orders for all sorts of merchandise."



CLARK LEAK INDICATOR AND CASE.

Combined operation of both sides, as would be desirable during the peak load, is accomplished by turning the valves to mid position.

The filter is made up of a number of parts, so that breakage or disarrangement of any particular section does not necessitate the discontinuance of all filter service, and as these machines are tested to 400 pounds hydrostatic test pressure before shipment, the probability of such interruption of service from defective material or workmanship is unlikely. To prevent leakage due to dirt deposited on either disc or seat, double

# Construction Department

## IN ORDER TO FOLLOW UP

Properly the Construction Department items, please bear in mind the following statements:

### EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

### HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be written on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the postoffice will generally be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur, as our reports are often published before new companies are known and before they have any established office for the receipt of mail.

### WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

### DAILY BULLETIN

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year.

All advertising contracts in the Manufacturers Record for three months or longer include a subscription to the Daily Bulletin for the contract period, as well as a subscription to the Manufacturers Record.

### BRIDGES, CULVERTS, VIADUCTS

Ala., Mobile.—Mobile County Board of Revenue and Road Comrs. received report from T. W. Nicol, Engr., and ordered plans and specifications prepared for repairing Dog River bridge or placing new concrete foundation; concrete foundation estimated to cost \$8640.

Fla., Bradenton.—Manatee county, Sarasota-Venice Dist., votes Mch. 15 on \$250,000 bonds to construct bridges and roads. Address County Comrs. (Lately noted.)

Fla., Palatka.—Putnam County Comrs., J. H. Millican, Chrmn., will rebuild concrete bridge 4000 ft. long across St. John's River; asking estimates. (See Machinery Wanted.)

La., Harrisonburg—Dam.—U. S. Engr. Office, Vicksburg Dist., J. R. Slattery, Major, Engrs., Vicksburg, Miss., will recommend award of contract to Miller Engineering Co. of Little Rock, Ark., at \$113,596 (lowest bidder) to construct Dam No. 2, lockmaster's dwelling, workshop, needle shed and warehouse; dam to be of Polree type, about 400 ft. long and 20 ft. high; lock completed. (Lately noted.)

La., Lake Charles.—Calcasieu Parish Police Jury contemplates constructing reinforced concrete bridge of bascule type across river; secure plans for bascule lift from Strauss Bascule Bridge Co. of Chicago; bascule to be operated by electric motors; 2 spans of lift to be counterbalanced so that they can be opened in minimum time.

La., Shreveport.—Vicksburg, Shreveport & Pacific Ry., H. B. Hearn, Supt., Shreveport, let contract to Blodgett Construction Co., Kansas City, Mo. (branch office, Shreveport), to rebuild bridge across Red River; includes removal of present structure and replacing with three new 242-ft. truss spans, one 295-ft. draw span and one 60-ft. deck-girder span; traffic maintained on structure during construction; begin work in May and complete by end of year.

Miss., Laurel.—Jones County Supr., Ellisville, Miss., let contract Vincennes Bridge Co., Vincennes, Ind., to construct steel bridge over Horse Creek.

Mo., Warrensburg.—Johnson County Comrs. let contract East St. Louis Bridge Co., East St. Louis, Ill., at \$10,993 to construct 30 steel bridges.

N. C., Asheville.—French Broad Mfg. Co. will construct steel-frame overhead bridge at height of 23 ft. across county highway.

N. C., Newbern.—W. A. Barrington and W. H. Dunn (R. F. D. No. 1) are promoting construction of bridge over Mill Swamp Creek.

Tex., Rockport.—Aransas County Comrs., Rockport, and Refugio County Comrs., Refugio, contemplate constructing bridge across Puerto Bay to Refugio county.

Va., Bedford City.—Bedford county will construct steel and concrete bridge 209 ft. long over Elk Creek; bids received at County Clerk's office until Feb. 16; G. P. Coleman, State Highway Commr., Richmond. (See Machinery Wanted.)

Va., Fort Monroe.—Government will construct concrete foot bridge across moat; Quartermaster receives bids until Mch. 3. (See Machinery Wanted.)

Va., Norfolk.—Elizabeth Park & Land Co., C. E. Townsend, Engr., will expend about \$25,000 to erect lately-noted reinforced concrete bridge; date of opening construction bids not set.

Va., Richmond.—Henrico County Supr. let contract Shurley Carter at \$23,040.44 to construct concrete bridge on Meadow Bridge Rd. over Chickahominy Swamp, connecting Henrico and Hanover counties.

W. Va., Huntington.—Albert Maupin, Engr., submitted to City Comrs. detailed cost of constructing 29th St. and 5th Ave. overhead railway crossings; former is estimated to cost \$30,225 and latter \$43,562; plans call for roadway 42 ft. wide for 5th Ave. grade; require 1,552,000 lbs. steel estimated to cost \$41,720.

### CANNING AND PACKING PLANTS

Ark., De Queen.—Sevier County Co-operative Packing Co. (address, care of De Queen Ice & Light Co.) organized to establish plant to cure meats.

Ky., Posey.—Buck Creek Canning Co., capital \$1000, inceptd. by J. L. Wilson, Sanford Rowland, R. D. Hale and W. A. Adams.

La., Ama.—Henry Hirsch, Harry Levy and M. B. Landry are promoting erection of cannery.

Miss., Nelliesburg (not a P. O.)—D. T. Hall of Wiggins, Miss., and others are reported to build pickle factory.

Mo., Rich Hill.—J. M. Yarbol of Springfield Supply Co., Springfield, Mo., is reported as promoting erection of cannery.

Tex., Plainview.—Texas Land & Development Co. is interested in plan to establish cannery for asparagus, berries, tomatoes, etc. (See Machinery Wanted.)

### CLAYWORKING PLANTS

Mo., Kansas City.—Bricks.—Flannagan-Zeller Brick & Mfg. Co., capital \$30,000, inceptd. by J. A. Flannagan, W. J. Zeller and A. W. Miller.

### COAL MINES AND COKE OVENS

Ala., Cordova.—Diamond Coal Co., 812 Brown-Marx Bldg., Birmingham, Ala., organized; J. S. Shannon, Prest. and Mgr.; Norah L. S. Lunsford, V. P.; W. G. Lunsford, Secy.-Treas.; install electrical machinery; date for receiving bids not set; develop 800 to 1000 acres; daily capacity 200 to 250 tons; needs rails for completion of railroad to mines; Prest. Shannon and W. G. Lunsford lately noted as purchasing Oak Leaf Coal Co. property. (See Machinery Wanted.)

Ga., Savannah.—Taggart Coal Co. (lately noted inceptd.) will install coal-handling machinery. (See Miscellaneous Enterprises.)

Ky., Hopkinsville.—"Southern Coal Co." (lately noted inceptd.) should have read "Southern Cereal Co." (See Miscellaneous Factories.)

Ky., McCarr.—Lynn Coal & Coke Co. organized; Frank P. Harman, Prest.; Everett McD. Harman, V. P.; W. A. Young, Secy.-Treas.; W. A. Wilson, Mgr.; develop 800 acres; daily output 700 tons; electrical machinery.

Ky., Straight Creek.—Continental Coal Corp., F. B. Martin, Prest., and W. L. Moss, V.-P. and Mgr., lately noted (under "Pineville") to develop 2 additional mines on Straight Creek, will remove power plant and tipple to new location and construct 3000 ft. railroad spur, at cost of \$12,000, to tap advanced work of old mine; tipple machinery cost \$2000; company's daily output 1000 tons; acreage 1000.

Tenn., Knoxville.—Coal Creek Leasing Co., capital \$5000, inceptd. by G. M. Camp, W. H. Branscom, John L. Bond, Calvin Holmes and Sam E. Young.

Tex., Dallas.—Cliff Fuel Co., capital stock \$5000, inceptd. by C. B. Hartzog, H. C. Barnard and F. W. Bartlett.

Va., Dickenson County.—Eastern Kentucky Block Coal & Fuel Co. (lately noted inceptd., capital \$80,000) completed organization with W. O. Brothers, Prest., and H. V. Brothers, Secy.-Treas., both of Honaker, Va.; mines in Pike county, Kentucky, and Dickenson county, Virginia; will develop; initial capacity 1000 tons daily.

W. Va., Grafton.—New York capitalists are reported as negotiating for 65,000 acres Webster county coal land, owned by John T. McGraw of West Virginia Midland R. R. Co., and allied interests; understood negotiations are progressing; principals not now prepared to make announcement.

### DRAINAGE SYSTEMS

Fla., Fort Pierce.—Trustees Internal Improvement Fund, Tallahassee, are reported to have let contract Furst-Clark Construction Co. (main office, 1515 Fidelity Bldg., Baltimore, Md.) to construct St. Lucie Canal from St. Lucie River to Lake Okeechobee in Everglades Drainage Dist.

La., Savannah.—Albert Wally, Chrmn. Committee on Drainage, approved map prepared by W. F. Brown, County Engr., showing main canals, rights of way and other data in connection with plan to drain and reclaim about 9 sq. mi. farming lands, including Shaw, Taliaferro, Little Raspberry and Courvoise swamps; 15.25 mi. of main canals, all to empty into head of Salt Creek; laterals to connect with main canals.

Ky., Calhoun.—E. S. Porter Drainage Dist., through McLean Drainage Board, let contract to F. S. Fogey, Owensboro, Ky., to construct 6 1/2 mi. drainage ditch in McLean county; cost \$12,780; Hart & Brown, Engrs., Owensboro.

Ky., Owensboro.—Haynes Drainage Dist. will construct 25 mi. open ditch drainage in Henderson and Daviess counties; estimated

cost, \$33,600; will let contract in spring; Hart & Brown, Engrs., Owensboro.

La., Baton Rouge.—A. Grouchy, Jr., Mayor, is reported interested in plan to create drainage district in southern portion East Baton Rouge parish; estimated cost \$150,000.

La., Estherwood.—Acadia Parish Fifth Ward Drainage Dist. voted \$38,000 bonds to construct gravity drainage system; 6 canals 20 ft. wide and 4 ft. deep; open natural drains; drain 15,000 acres near Estherwood for farming and cotton; Ellis I. Hoffpauir, Prest. Comms., (Lately noted.)

La., Westover.—West Baton Rouge parish, Bayou Nolan Drainage Dist., will construct drainage canal and widen and deepen Bayou Alligator; estimated yardage, 133,000; W. V. Easton, Secy. of Dist., receives bids until Feb. 23. (See Machinery Wanted.)

Miss., Ackerman.—Drainage Comms. Choctaw County Big Black Drainage Dist. No. 1 let contract N. C. McGinnis & Co., 1704 Exchange Bldg., Memphis, Tenn., at \$65,000 to construct drainage system; district is 8 or 9 mi. long, and comprises portions of Choctaw, Webster and Montgomery counties, including part of Bywy's and Big Black bottoms; contains about 10,000 acres bottom lands; plans and specifications call for 2 canals running parallel on each side of Big Black River bottom; one main canal, 30 ft. top, 10 ft. deep, 20 ft. bottom; other main canal, 35 ft. top, 10 ft. deep, 25 ft. bottom; tributary canal 3 1/2 mi. long, 24 ft. top, 9 ft. deep, 12 ft. bottom; about 20 miscellaneous canals and 900,000 cu. yds.

Mo., Cape Girardeau.—Little River Drainage Dist., John H. Himmelberger, Prest. Board of Supr., will construct 6,000,000 cu. yds. excavation included in contracts 11 and 17, bottom widths ranging from 81 to 123 ft.; bids opened Feb. 8; Wm. A. O'Brien, Ch. Engr. (See Machinery Wanted.)

N. C., Newbern.—Newbern Drainage Dist., Geo. D. Dall, Secy., will advertise bids about Mar. 10 for drainage work lately noted; plans by R. R. Eagle, Engr.; about 15 per cent. of work is in city, balance extending out about 1 mi.; drain 1400 acres for residence, trucking and farm lands, etc.; 2 main canals about 15 ft. average width, and about 12 3-ft.-wide canals of same depth; open canals and terra-cotta pipe through level land; 2 tide gates; terra-cotta pipe in city; cost of canals and piping about \$12,000.

N. C., Statesville.—H. R. Cowles, J. W. Hager, T. J. Allison, E. S. Millsaps and others are interested in plan to dredge South Yadkin River in order to drain bottoms preparatory to cultivation; propose to drain 20 mi. of river from near Alexander county line to point near where Rocky Creek enters river; reclaim about 1200 acres.

Tex., Bay City.—Matagorda County Drainage Dist. No. 5 will construct drainage system; 255,246 cu. yds. excavation; Drainage Comms., Geo. C. Corporan, Chrmn., receive bids until Mch. 6; E. N. Gustafson, Engr., Bay City. (See Machinery Wanted.)

### ELECTRIC PLANTS

Ala., Bay Minette.—City let contract Sullivan, Long & Haggerty Co. of Bessemer, Ala., to construct electric-light plant, water-works and sewer system; 50 K. V. A. 1200 R. P. M. belt-type 3-phase 60-cycle 2300-volt generator, 2-panel switchboard exciter and about 2 mi. pole line; Edgar B. Kay, Engr., Tuscaloosa, Ala.; W. D. Stapleton, Mayor. (Noted in Dec.)

Ark., Stephens.—Arkansas Light & Power Co. of Malvern, Ark., and other cities is considering construction of electric-light system; furnish power and lights from Camden, Ark.

Ark., Stephens.—Arkansas Light & Power Co. is reported as contemplating construction of electric-light system; secure electricity to operate plant from Camden.

Ga., Cuthbert.—Electric Light and Water Comms. contemplate purchasing 125 K. W. generator and 14x18 in. engine, directly connected, and voltage regulators; E. A. Turner is superintendent.

Ga., Quitman.—City placed contracts for equipment for lately-noted electric and water-works plant; equipment includes 2 175 H. P. water-tube boilers and 2 250 K. V. A. alternators, with exciters, switchboard, etc.; also pumps, engine and condenser; J. B. McCrary Co., Engr., Atlanta, Ga. (See Water-works.)

Ga., Richland.—City votes Mch. 24 on \$20,000 bonds to extend light and water systems and construct sewers. Address The Mayor. (Lately noted.)

Ky., Hazard.—Hazard Light & Power Co. (lately noted purchased by B. P. Wootton and others) will be reorganized under new management; not now in operation; cost \$12,000, and has 1½ mi. transmission system.

Ky., Irvine.—City sold electric-light franchise. Address The Mayor.

La., New Orleans.—Geo. T. Bishop, Prest. Cleveland Traction Co., Cleveland, O., is reported as contemplating erection of public lighting plant.

Md., Baltimore.—City will alter and repair power plant at jail; Board of Awards receives new bids at office Richard Gwinn, City Register, City Hall, until Feb. 17; drawings and specifications on file with C. E. Stubbs, Building Inspector. (Lately noted.)

Miss., Jackson.—City votes Mch. 13 on \$100,000 bonds to construct electric-light and power plant; M. L. Culley, City Engr. (Lately noted.)

Mo., Altamont.—City Council has been petitioned for franchise to construct electric-light system. Address The Mayor.

Mo., East Prairie.—City votes Mch. 2 on granting of franchise to C. L. Marratt to construct electric-light plant. Address The Mayor.

Mo., Hume.—City granted franchise Julian J. Ross of Hannibal, Mo., to build electric-light plant; proposes to build 2-ton ice plant in connection.

Mo., Kansas City.—St. Joseph's Hospital engaged Henrich, Kent & Lowry, Reserve Bank Bldg., as engineers for power plant; Architects, Wilder & Wight, First National Bank Bldg., Kansas City.

Mo., Knobuster.—Standard Engineering Co., John J. Freundlich, managing official, 609 Republic Bldg., Kansas City, Mo., states proposed plant is estimated to cost \$10,000; "Do own work;" Standard Company lately noted as preparing plans and to invite bids on equipment. (See Machinery Wanted.)

Mo., Pleasant Hill.—City is considering construction of electric-light system. Address The Mayor.

N. C., La Grange.—City will issue \$50,000 bonds to construct electric-light plant and water-works and probably pave streets. Address The Mayor.

Okla., Bennington.—John D. Bomford acquired light plant from Bennington Light, Ice & Power Co.; contemplates improvements; probably install ice plant later.

Okla., Bristow.—City is reported as considering construction of electric-light plant. Address The Mayor.

S. C., Walterboro.—City engaged H. S. Jaudon Engineering Co. of Savannah, Ga., to prepare maps, blueprints, etc., and supervise construction of electric-light system. (Lately noted.)

Tex., Denton.—City voted \$10,000 to extend and improve light and water systems. Address The Mayor. (See Water-works.)

Tex., Ozona.—Frank F. Friend and others will install electric light and water plant.

Tex., Wolfe City.—Wolfe City Light Co., Thos. J. Kelly, Secy., purchased plant of Wolfe City Electric Light & Power Co.; purchase electricity to operate system from Wolfe City Milling Co. (Lately noted Incptd. with \$6000 capital stock.)

Tex., Yonkum.—City has contracted with Yonkum Power, Light & Water Co. for street-lighting system; total installation consists of 15 400 C. P. lamps and 28 100 C. P. lamps.

W. Va., Morgantown.—West Virginia Tract. & Electric Co., 12th and Chapline Sts., Wheeling, W. Va., will construct noted improvements by company's force, and has purchased material.

#### FERTILIZER FACTORIES

Tex., Sulphur Springs.—O. M. Pate & Sons contemplate erection of fertilizer factory, with large warehouse in connection.

Va., Norfolk.—Norfolk Manuf. Co., R. F. D. No. 1, Norfolk, Incptd. with \$5000 capital stock; John S. Seeley, Prest.; A. S. Seeley, V.-P.; Eliza J. Seeley, Secy.-Treas.

#### FLOUR, FEED AND MEAL MILLS

Ga., Culverton.—Culverton Milling Co., capital stock \$2000, Incptd. by John O. Moore, John L. Culver, D. L. Johnson and others.

Ga., Dublin.—J. T. Pope will increase daily capacity of flour mill from 75 to 100 bbls.; installing corn shucker and sheller.

Ky., Bowling Green.—Crump Milling Co. will rebuild flour mill lately noted burned at loss of \$8000 to \$10,000.

Miss., Columbus.—Independent Oil & Fertilizer Co. will build flour mill; purchased machinery.

N. C., Welcome.—Welcome Milling Co. (lately noted Incptd., capital \$25,000) organized; J. C. Ripple, Prest.; L. C. Ripple, Mgr.; continue operation of established roller mill; daily capacity 60 bbls. flour.

Okla., Miami.—Miami Amalgamated Milling Co., capital \$50,000, Incptd. by W. H. Trapp and A. Findley of Miami, S. S. Dickinson of Larned, Kan., and A. Thurman of Joplin, Mo.

Okla., Jet.—W. K. Bishop contemplates installing small flour mill in conjunction with feed-grinding plant.

Okla., Sallisaw.—L. C. McNabb will build flour mill and grain elevator.

Okla., Yukon.—Yukon Mill & Grain Co. will build addition to plant.

S. C., Laurens.—Dixie Flour & Grain Co., capital \$10,000, Incptd. by F. K. Spratt, John Spratt and J. C. Todd.

Tex., Sulphur Springs.—Chamber of Commerce, T. M. Kerbow, Secy., advises of proposed establishment of custom flour mill; building ready for occupancy and machinery probably arranged for.

Va., Mineral.—Mineral Milling Co., capital stock \$50,000, Incptd.; J. S. Purcell, Prest.; G. E. Fisher, Secy.-Treas., both of Louisa, Va.

W. Va., Shepherdstown.—C. N. Whiting will erect 56x60-ft. building; ordinary mill construction; 3½ stories and basement; machinery bids opened first week in February.

#### FOUNDRY AND MACHINE PLANTS

Ga., Macon.—Blacksmith Shop.—Bibb County Commrs. voted to establish county blacksmith shop at Roff Home property; will appropriate \$1500.

Md., Baltimore.—Machine Shop.—Standard Oil Co. let contract to Turner Construction Co., 11 Broadway, New York, to erect machine shop and mechanics' quarters at Canton yards; 2 stories, 50x192 ft.; concrete; electric light; electric freight elevator; cost about \$60,000.

Miss., Shubuta—Foundry.—J. N. Brownlee will build foundry.

Okla., Oklahoma City.—Threshing Machines Home Threshing Machine Co., capital stock \$10,000, Incptd. by Dorset Carter, R. C. Rowell and V. A. Wignall.

Okla., Tulsa.—Gas Engines.—Reversing Gas Engine Co., capital stock \$250,000, Incptd. by J. W. Sloane, J. R. Keenan, C. A. Braden and G. T. Braden to manufacture reversible gas engine for oil wells.

Tenn., Memphis.—Brake Shoes.—General Brake Shoe & Foundry Co. of Chicago, Ill., is reported to have leased plant of Allen Engineering Co. in North Memphis and to equip as brake-shoe foundry; operate as Memphis Brake Shoe & Foundry Co.; O. S. Davison of Chicago to be in charge.

Va., Lynchburg—Foundry.—Hubard Foundry & Machine Works, 1300 Commerce St., will repair damages caused by recent fire; no building.

#### GAS AND OIL ENTERPRISES

Ala., Opelika—Gas Plant.—Opelika-Auburn Gas Co., present address 1124 Healey Bldg., Atlanta, Ga., will have \$50,000 capital stock; Opelika, 8 pipe lines; Auburn, 3; connecting, 7; 2-in. to 10-in. pipe; artificial gas; C. R. Miller, Engr., 1124 Healey Bldg., Atlanta. (Lately noted to build plant; franchise granted by both cities to W. M. Jenkins, Atlanta.)

Ark., Ozark.—Ozark Oil & Gas Co. organized by S. S. Crawford, C. M. Davenport, Chas. Gilstrap, Geo. W. Russell and L. M. Guthrie; will develop 10,000 acres oil and gas lands in vicinity of Ozark, Franklin county; will let drilling contracts. (See Machinery Wanted.)

Okla., Bartlesville—Oil Refinery.—S. B. von Tacky of Titusville, Pa., is reported as contemplating erection of refinery.

Okla., Muskogee.—Robinson Drilling Co., capital stock \$15,000, Incptd. by E. A. Robinson of Muskogee, F. M. Robinson and Erasmus Wilson of Los Angeles, Cal.

Okla., Ponca City—Oil Pipe Line.—McCorkle & Co. (railroad contractors), Kansas City, Mo., have contract to construct 64 mi. 4-in. oil pipe line from Ponca City to Yale.

Okla., Sapulpa.—Abdon Oil & Gas Co., capital stock \$25,000, Incptd. by W. J. Hamra and Lee Hamra of Sapulpa and Salim H. Abdon of Dallas, Tex.

Okla., Sapulpa.—Holt Pipe Line Co., capital \$10,000, Incptd. by G. E. Potter, Bessie M. Potter and S. C. Potter.

Okla., Tulsa—Pipe Line and Refinery.—Oil Producers Co., capital stock \$1,000,000, Incptd. by E. P. Perry, R. F. Poe and M. Dickerson.

Okla., Tulsa.—Crest Oil Co., capital stock \$10,000, Incptd. by Earl T. Miller, Walter Brown and R. R. Poe.

Okla., Tulsa.—Rover Oil Co., capital stock \$10,000, Incptd. by W. M. Ross, J. Wm. Everhart and Philip Kates.

Okla., Tulsa.—Invincible Oil Co., capital stock \$100,000, Incptd. by John Chambers of Tulsa, John E. Fields of Blackwell, Okla., and Niels Esperon of Houston, Tex.

Okla., Tulsa.—McCain Oil & Gas Co., capital \$5000, Incptd. by Mert W. McCain of Tulsa, Wm. H. Sills and Nora Foster of Chicago.

Okla., Tulsa.—Oakwood Oil Co., capital stock \$10,000, Incptd. by J. A. Hull, W. H. Kiser and Hess McKnight.

Okla., Tulsa.—McMillan-Dunn Oil & Gas Co., capital stock \$15,000, Incptd. by James E. Dunn, Tulsa; R. F. McMillan and Bayless Steele, Kansas City, Mo.

Okla., Tulsa.—Marathon Oil & Gas Co., capital stock \$10,000, Incptd. by W. E. Hawley, L. F. Barnes and C. L. Hunker.

Okla., Yale.—Webster Oil & Gas Co., capital \$400, Incptd. by G. W. Canfield and C. D. Webster.

Tenn., Memphis.—Parker Oil & Gas Co., capital \$1000, Incptd. by Eugene Sutcliffe, J. S. Williams, H. G. Weber, J. E. Parker and A. H. Kartrecht.

Tex., Marlin—Gaspipe Line.—City Council granted gas franchise to B. P. Crosby of Waco, Tex.; construct distributing plant in city and pipe gas from Mexia fields.

Tex., Waco.—Waco Petroleum Co. (lately noted Incptd., capital stock \$50,000) organized; J. E. Blackburn, Prest. and Gen. Mgr.; W. E. Buchanan, Treas.; Jno. C. Collins, Secy.; producing company; no pipe lines; has contracts for several thousand acres in Oklahoma and Texas; will drill first well near Malone; machinery for present needs purchased.

#### ICE AND COLD-STORAGE PLANTS

Ala., Auburn.—Alabama Polytechnic Institute contemplates equipping mechanical laboratory with 2½-ton refrigerating plant and installing small refrigerating machine in connection with dairy equipment.

Ark., Blytheville.—Hollister & Jontz let contract Chickasaw Iron Works, Memphis, Tenn., to improve ice plant; convert present frame building into concrete structure reinforced with steel; reinforced concrete tower; cost \$9000; purchased ice machine. (Lately noted.)

Fla., Lawtry.—H. D. Randall and associates let contract Dixie Engineering & Insulating Co., Atlanta, Ga., to furnish material and erect cold-storage box for meat storage; 10x40x10-ft. structure; materials supplied.

Ga., Dublin.—City Council adopted resolution providing for erection of cold-storage plant for meat, etc. Address The Mayor. (See Road and Street Work.)

Ga., Eatonton.—Putnam's Co-operative Creamery is reported to establish ice plant.

Ky., Central City.—Shelby Gish is reported as contemplating erection of 25-ton ice plant.

Ky., Irvine.—Victor Bloomfield, B. A. Tracy and others are organizing company with \$15,000 capital to establish ice plant.

Ky., Louisville.—Polar Ice Co. increased capital stock from \$30,000 to \$50,000.

La., St. Martinville.—John Meal of New Orleans submitted proposal to City Council to build 12-ton ice plant.

Miss., Jackson.—M. R. Mitchell is reported as contemplating installing refrigerating machinery; inviting bids for same.

Miss., Tupelo.—Crystal Ice Co., capital \$30,000, Incptd. by R. W. Reed, B. A. Rogers and others.

Mo., Blackwater.—John C. Henry is reported as contemplating to rebuild 7½-ton ice plant partially destroyed by fire.

Mo., Hume.—Julian J. Ross of Hannibal, Mo., will build 2-ton ice plant. (See Electric Plants.)

N. C., Southern Pines.—H. A. Lewis of Bethlehem, N. H., is reported to build cold-storage plant.

N. C., Winston-Salem.—Crystal Ice Co. will repair plant reported damaged by fire at loss of \$3000 to \$5000; will continue with improvements as planned. (Lately noted to build \$60,000 addition.)

Okla., Bennington.—John D. Bomford acquired light plant from Bennington Light, Ice

& Power Co. and will probably install ice plant later. (See Electric Plants.)

Okla., Cleveland.—Imperial Ice Co. (lately noted Incptd., capital stock \$10,000) organized; E. B. Lawson, Prest.; Frank Hancock, V.-P.; Herbert Forrest, Secy.; H. G. Bertanshaw, Treas.; all of Nowata, Okla.; Chas. Fulton, Mgr.; purchased 20-ton ice plant from Shepard & Chain Ice Co.

Tenn., Memphis.—People's Ice & Coal Co., capital stock \$25,000, Incptd. by A. A. Bell, B. M. Draper, E. N. Parham and others.

Tex., Hallettsville.—E. E. Fertsch of Hallettsville and E. W. Hooke of New Ulm, Tex., purchased ice plant for \$4000 and will improve.

Tex., Laredo.—Sames, Moore & Co. contemplate installing refrigerating plant; cold-storage space of about 22,000 cu. ft.

Va., Salem.—Crystal Ice Plant, C. A. Gittens, Mgr., will build storage refrigerating room; cost \$1200.

Va., Staunton.—Rothwell & Co., Martinsburg, W. Va., contemplate establishing cold-storage plant; may utilize property of Staunton Cooperage Co. (Staunton Business League lately noted as having arranged with cold-storage operator for \$50,000 cold-storage plant to have capacity of 40,000 bbls. apples.)

Va., Strasburg.—F. C. Stover contemplates building ice plant.

#### IRON AND STEEL PLANTS

Mo., Williamsburg—Iron Furnaces.—Ozark Valley Ry. Co., J. T. Long, Prest., Commerce Trust Bldg., Kansas City, will install small charcoal iron furnaces on its railroad, which extends through iron-ore and timber property.

Va., Reusens—Iron Furnace.—Oriskany Ore & Iron Corp., Iron Gate, Va., has blown in iron furnaces; daily capacity 150 tons pig-iron.

#### IRRIGATION SYSTEMS

Tex., Harlingen.—Comms. Cameron County Irrigation Dist. No. 1, Gordon Hill, Secy., invites bids until Feb. 13 to excavate silt, dirt and other obstructions to ready flow of water through mains and irrigation ditches now constructed on estimated length of 17 mi.; estimated yardage 190,000 cu. yds.; also for other improvements as shown by map, profiles, estimates and specifications prepared by engineer of district; district lately noted as organized and to have voted \$750,000 of bonds, \$400,000 of which is to take over present canal system of Harlingen Land & Water Co. and \$350,000 for improvements. (See Machinery Wanted.)

#### LAND DEVELOPMENTS

La., Abbeville.—Vermilion Parish Nursery & Orchard Co., capital \$25,000, Incptd.; purchased 10 acres about 2 mi. from Abbeville; will plant 20,000 Satsuma orange trees and 30 acres as nursery.

La., New Orleans.—Alluvial Orange Lands, Inc., organized with \$200,000 capital stock to reclaim and develop alluvial lands at Shell Beach; E. L. Chappuis, Prest.; Burton Smith, V.-P.

La., Lake Charles.—Prairie Farm Lands Co., capital stock \$200,000, organized with S. T. Woodring, Prest.; Geo. T. Lock and W. P.

S. C., Greenville.—Cagle Park Co., capital \$30,000, Incptd. with A. A. Bristow, Prest.; A. L. Mills, V.-P.; T. C. Gower, Treas.; W. F. Robertson, Secy.; purchased portion of Cagle property on Augusta Rd. for \$60,000, comprising about 35 acres; divide tract into building lots, construct electric-light plant, sewer system, etc.

N. C., Newbern.—Newbern Drainage Dist., Geo. D. Dall, Secy., will drain 1400 acres to reclaim residence property in city and for farming, etc. (See Drainage Systems.)

Tex., San Antonio.—Luthy Electric Mfg. Co., Arthur Knaap, Treas.; will acquire and develop 40,000 acres south of city.

Va., New Kent County—West Point Development Co., Glen Rock (not a postoffice).—Norfolk & Portsmouth Construction & Development Co., Norfolk, Va., purchased 750 building lots at Glen Rock, Princess Anne county, about 3½ mi. from Norfolk, and will develop as manufacturing center.

Mo., Level Cross.—Real Estate Co., Inc., leased land.

M. I., Franklin.—Real Estate Co., Inc., leased land.

Ark., Ark. City.—Real Estate Co., Inc., leased land.

Fla., Fort Pierce.—Real Estate Co., Inc., leased land.

W. Va., Weston.—Real Estate Co., Inc., leased land.

#### MISCELLANEOUS

Ark., Ark. City.—Real Estate Co., Inc., leased land.

Fla., Fort Pierce.—Real Estate Co., Inc., leased land.

W. Va., Weston.—Real Estate Co., Inc., leased land.

W. Va

## MANUFACTURERS RECORD.

Co., lately owned by Walker & Johnstone; conduct wholesale yellow-pine business.

Fla., De Funik Springs.—Harbison Lumber Co. will build plant; main mill 40x60 ft.; planing mill 40x100 ft.; cement tanks for logs; capacity 75,000 ft.; specialty flooring; build tram railway; has timber land; W. H. Pickard to be manager.

Ky., Brodhead.—Brodhead Lumber Co., capital \$2500, incptd. by B. D. Holtzclaw, A. Wesley Holtzclaw and W. O. Holtzclaw.

La., Slidell.—Salem Brick & Lumber Co. is reported to increase capacity of sawmill.

Miss., Ellisville.—Thompson & Dupont of New Orleans, La., are reported to have purchased several tracts of timber land and to build sawmill.

Miss., Hattiesburg.—H. D. Foote Lumber Co., capital stock \$7500, incptd. by H. D. and J. R. Foote of Hattiesburg and A. W. Seely, Saginaw, Mich.

N. C., Newbern.—John L. Roper Lumber Co. is reported to improve plant.

Mo., Farrenberg.—Farrenberg Lumber Co., capital stock \$10,000, incptd. by C. T. Brewer, J. N. Terrell and Murray Phillips.

Mo., Springfield.—Moist Lumber Co., capital \$25,000, incptd. by M. M., R. E. and H. C. Moist, Jr.

S. C., Martin.—L. Anderson & Co. will rebuild plant lately noted burned; plans not decided.

Tenn., Bristol.—H. P. Wyman Lumber Co. will build sawmill; develop timber land; build railroad.

Tex., Manning.—Philip A. Ryan Lumber Co., Onalaska, Tex., purchased hardwood timber on property of Carter-Kelly Lumber Co. and is having plans prepared for single-band mill; daily capacity 25,000 ft. (Lately noted.)

## METAL-WORKING PLANTS

Ala., Guntersville—Well Buckets.—Tubular Bucket Co. organized to manufacture patented well bucket; daily output to be 50 doz.; has buildings; has ordered machinery; T. W. Glover, Pres. and Mgr.; H. C. Henderson, Vice-President.

Mo., St. Louis—Sheet-metal Goods.—Hemp & Co., capital stock \$20,000, incptd. by Wm. H. and Jos. L. Hemp and Lewis W. Hemp; continue established plant.

N. C., Thomasville—The Shop.—Crutchfield Hardware Co. will establish tin shop, to be operated in connection with present business of wholesale and retail dealing in hardware and machinery.

Tex., El Paso—Tanks, Pipe, etc.—Hills, Sutton & White Mfg. Co., Myrtle Ave. and Dallas St., incptd. with \$20,000 capital stock; purchased site on which to build plant, making specialty of silos and irrigation pipe; continuation of Southwestern Metal Mfg. Co. of Albuquerque, N. M.; R. B. Sutton is Mgr.

## MINING

Ky., Emma.—Floyd Mining Co., capital \$10,000, incptd. by Henry L. Coe, Ben E. Tate and R. D. Davis.

La., New Orleans—Quartz.—Philadelphia Quartz Co., 4507 Chartres St., will erect factory building; 1 story; galvanized iron; cost \$3500.

Mo., Kansas City—Lead and Zinc.—Star Mining & Milling Co., capital \$10,000, incptd. by L. M. Couch, W. O. Sharp and S. J. Mattocks.

Mo., Sarcoxie—Lead and Zinc.—Lower Level Mining Co., capital stock \$2600, incptd. by S. Tamby, Geo. Spiva and J. W. Boyd.

Mo., Webb City—Lead and Zinc.—J. Barber Gibson and others are reported to have leased Moark-Nemo tract and contemplate building concentrating plant.

N. C., Franklin—Mica.—Franklin Mica & Realty Co. incptd., capital stock \$150,000, by M. D. Billings, Frank Williams, both of Franklin, and Jno. H. Gould, Philadelphia, Pa.

N. C., Harrisburg, R. F. D No. 1—Gold.—Pioneer Gold Mining Co., lately noted (under Charlotte) incptd., capital stock \$200,000, will develop 1100 acres; Chas. McDonald, Pres., Concord, N. C.; Jno. H. Furman, V.-P. and Mgr.

## MISCELLANEOUS CONSTRUCTION

Ark., Little Rock—Levees.—St. Francis Levee Dist. has legislative authority to issue \$465,000 bonds.

Fla., Gulfport—Pier.—City will construct pier to 30 ft. of water; head of pier, which will be 32x30 ft., will be 30 ft. from shore out into Boca Ceiga Bay; pavilion; H. E. Wendell, Supt. Public Works, prepared plans.

Fla., Gulfport—Wharf.—St. Petersburg Investment Co., St. Petersburg, is having plans and specifications prepared for terminals for Boca Ceiga Boat Co. at Gulfport; plans call for dock, waiting-room for passengers and freight warehouse.

Fla., Miami—Swimming Pool.—Mr. Ullendorff will build swimming-pool at Ocean Beach Casino; pool 35x140 ft.; lined with bathroom tile; water to be pumped from ocean; estimated cost \$10,000.

N. C., Wilmington—Dredging.—Government receives bids until Mch. 9 on dredging in Neuse River, waterway from Pamlico Sound to Beaufort Inlet and Beaufort harbor; estimated cost lately noted from \$28,000 to \$29,000; H. W. Stickle, Major, Engrs. (See Machinery Wanted.)

Tenn., Memphis.—Nashville, Chattanooga & St. Louis Ry., H. McDonald, Ch. Engr., Nashville, has been ordered by County Commissioners to construct subway at Highland Ave.; estimated cost \$15,000.

Tex., Dallas—Swimming Pool.—City Park Board has tentative plans by Geo. E. Kessler of St. Louis, Mo., for swimming pool in Lake Cliff Park to cost \$40,000; plans also include bathhouse to cost \$15,000, etc.

Tex., Houston—Wharf.—City is preparing to begin construction of first unit of wharf and warehouse system on ship channel; wharf to be 500x50 ft. and warehouse 500x200 ft.; estimated cost, \$125,000; Ben Campbell, Mayor. (Noted in Dec.)

## MISCELLANEOUS ENTERPRISES

D. C., Washington—Olive Oil, etc.—Romaenelle, Gugliuzza & Co., 408-409 Woodward Bldg., chartered with \$50,000 capital stock by Nathan Musher, Anna Musher and Stanley H. Fischer.

D. C., Washington—Printing Plant.—National Publishing Co. has plans by Milburn, Heister & Co., 603 Union Trust Bldg., Washington, and let contract to A. M. Poynton, 714 15th St. N. W., Washington, to erect building for printing plant on H St. between 12th and 13th Sts.; tapestry brick and concrete; slag roof; steam heat; electric light; electric freight elevator; cost about \$15,000. (Lately noted.)

Ga., Dublin—Crematory.—City Council has resolution providing for garbage-disposal plant, etc. Address The Mayor. (See Road and Street Work.)

Ga., Savannah—Coal-handling Plant.—Taggart Coal Co., lately noted (under Coal Mines and Coke Ovens), capital stock \$50,000, incptd. by G. L. and J. P. Taggart, has let contract for installation of coal-handling machinery.

Ga., Valdosta—Crematory.—City Council is considering erection of crematory. Address The Mayor.

Md., Baltimore—Industrial Building.—Wm. G. Sariel, Sr., 1135 Valley St., let contract to Henry Rippel, 7 Clay St., Baltimore, to erect factory building (lately noted under Warehouses) on Guilford Ave. near Federal St.; 50x75 ft., 2 stories and basement; brick, steel and concrete, ornamental brick and galvanized-iron front; slag roof; hot-water heat; electric light; electric elevator; cost about \$18,000; Callis & Callis, Archts., 2055 Kennedy Ave., Baltimore. Contemplates erecting second building of same specifications adjoining above noted.

Md., Cumberland—Stone and Sand.—Cumberland Builders' Supply Co. has plans by and let contract to Deverell, Spencer & Co., 1007 Garrett Bldg., Baltimore, to erect structure for storing and handling sand and crushed stone; 89x31 ft. by 56 ft. high; 12 bins, cylindrical, 14 ft. in diam., 36 ft. deep; concrete throughout; capacity 3300 tons material; bucket elevator and chain conveyor for handling material; capacity 100 tons per hour; cost about \$18,000.

Miss., Meridian—Potato Drykiln.—Lauderdale County Suprva. contemplate building potato drykiln on jail property; capacity 300 bus.; construction probably under supervision of Prof. J. W. Beeson.

Mo., Higginsville—Grain Elevator.—Higginsville Milling Co. will build additional concrete or steel elevator with capacity 30,000 bu. wheat.

Mo., Kansas City—Livestock.—Witherspoon McMellen Livestock Co., capital stock \$30,000, incptd. by Frank Witherspoon, Geo. C. McMellen and G. M. Smith.

Mo., Kansas City—Printing.—Lechtmann Printing Co., capital stock \$200,000, incptd. by Cusil, Nathan and E. K. Lechtmann.

Mo., Poplar Bluff—Grain Elevator.—Butler County Milling Co. will reconstruct grain elevator; preparing plans and specifications.

Mo., Russellville—Hardware and Implements.—Russellville Hardware & Implement

Co., capital \$10,000, incptd. by Clausen Dyer, S. R. Shickles and W. E. Allen.

Mo., St. Louis—Electrical Supplies and Machinery.—Brown & Hall Supply Co., 620 Central National Bank Bldg., incptd., capital stock \$5000, to deal as manufacturers' agent and jobber of electrical supplies and machinery; Norman S. Brown, Pres.; Moncrieff H. Smith, V.-P. and Secy.; Melville B. Hall, Treasurer.

Mo., St. Louis—Electrical Supplies.—Moerschell Electric Supply Co., capital stock \$5000, incptd. by Victor R. Appel, Wm. E. Moerschell and Chas. J. Kron.

N. C., Charlotte—Hardware.—Meyers Hardware Co., capital stock \$100,000, incptd. by J. B., C. J., J. and F. N. M. Meyers.

Okla., Sallisaw—Grain Elevator.—L. C. McNabb will build grain elevator and flour mill.

S. C., Abbeville—Grain Elevator.—W. W. Bradley and others will build grain elevator.

S. C., Greenwood—Live Stock.—Greenwood Transfer & Live Stock Co., capital \$5000, incptd. by D. B. Alexander, G. C. Hammond and Lillian M. Alexander.

S. C., Kingstree—Hardware.—King Hardware Co., capital \$5000, incptd. by E. E. King and S. B. McGill.

Tenn., Knoxville—Publishing.—People's Advocate, capital \$5000, incptd. by E. L. Waldis, Jesse Evans, C. W. Causler and others.

Tex., Amarillo—Grain Elevator.—Panhandle Grain & Elevator Co., capital stock \$50,000, incptd. by G. W. Crowell, G. M. Hamilton and J. Hunter.

Tex., Beaumont—Supplies.—Texas Supply Co., capital stock \$20,000, incptd. by P. B. Doty, Walter J. Crawford and others.

Tex., Beaumont—Publishing.—Beaumont Journal Building Co. will be organized to erect building for Beaumont Journal Publishing Co.; building and site to cost about \$25,000.

Tex., Fort Worth—Garbage Incinerator.—Herring & Gregory, Engrs., New York, recommend in report filed with City Secy. erection of garbage incinerator. (See Sewer Construction.)

Tex., Krum—Grain Elevator.—Bewley Mill & Elevator Co. will probably rebuild grain elevator lately noted burned at estimated loss of \$5500.

Tex., Plainview—Cattle.—H. I. Miller Catle Co., capital stock \$150,000, incptd. by J. C. Crockett of El Paso, H. I. Miller of New York and others; purchased 3300 acres of L. A. Knight Ranch.

Tex., San Antonio—Laundry.—San Antonio Steam Laundry organized with T. Welker, Pres.; F. W. Patton, V.-P.; L. E. Mayes, Secy.-Treas.; consolidates San Antonio Steam Laundry Co. and Alamo Laundry Co.; will improve and enlarge plant of San Antonio Steam Laundry Co. at 131 North St.

Va., Danville—Hardware.—Wilson-Dixon Hardware Co., capital stock \$10,000, incptd.; C. L. Wilson, Pres.; J. W. Dixon, Secy. Treas.

Va., Danville—Hardware.—Wilson-Dixon Hardware Co., capital stock \$10,000, incptd.; C. L. Wilson, Pres.; J. W. Dixon, Secy. Treas.

Va., Richmond.—W. H. Eanes, Inc., capital stock \$10,000, chartered; W. H. Eanes, Pres.; Otto W. Senf, Secy.

W. Va., Parkersburg—Cleaning and Dyeing Empire Cleaning & Dyeing Co. will erect two-story brick building and will equip as cleaning and dyeing plant.

W. Va., Richmond—Contracting.—Saville & Claiborne, Inc., capital stock \$15,000, chartered; Alien J. Saville, Pres.; Herbert A. Claiborne, Jr., Secy.-Treas.; consulting and contracting engineers.

W. Va., Clarksburg—Printing and Supplies.—O'Neale Printing & Supply Co., capital stock \$50,000, incptd. by B. B. O'Neale, Cecil O'Neale, Jos. Williams and others.

## MISCELLANEOUS FACTORIES

Ala., Auburn—Serum.—Legislature passed bill appropriating \$25,000 to build State hog-hoela serum plant at Auburn; Chas. Henderson, Governor, Montgomery.

Ala., Gadsden—Lime.—Theodore Poull, Birmingham, purchased Anniston Lime Co., near Gadsden; expects to build large plant.

Ala., Mobile—Cigar Vending Machines.—Automatic Sales Co., capital stock \$10,000, incptd. by H. L. Richards of Mobile and H. W. Gray of Oak Grove, Ala.

Ala., Montgomery—Candy.—Sam Shulman will establish candy factory at 208 Dexter Ave.

Ark., Oakland—Buttons.—R. L. Rea and E.

A. Spaulding will establish 6-saw button factory.

D. C., Washington—Plant Insecticide.—American Electro-Cide Co., 229 Woodward Bldg. (lately noted incptd., capital \$300,000), organized; G. Edward Woodward, Pres.; M. W. Sparks, Secy.; G. L. Peckham, Treas.; Jas. M. Chadsey, Mgr.; conduct system (electric action) for destroying—in the soil and on the plants—insects harmful to plant life; ask bids on manufacture of machine. (See Machinery Wanted.)

Fla., Bonifay—Rice-cleaning Plant.—A. L. Byrd of Bonifay Light & Water Co. contemplates installing rice-cleaning machinery to be operated in connection with lately-noted water, ice and light plants; has ground and siding. (See Machinery Wanted.)

Fla., Fort Pierce—Ice-Cream.—E. R. Rhea and N. C. Miller leased building and will install equipment to manufacture ice-cream.

Fla., Jacksonville—Vacuum Conveyor.—Barker Vacuum Conveyor Co., capital \$50,000, incptd. by R. G. Ross, Geo. W. Parkhill, Henry G. Aird and others.

Fla., Ocala—Bottling.—Chero-Cola Bottling Co., R. E. Layton, Pres., has leased building and purchased machinery (cost \$3000) for lately-noted plant to manufacture carbonated drinks.

Ga., Atlanta—Fuel-saving Device.—Fuel Economy Co., 316 Chamber of Commerce Bldg. (lately noted incptd., capital stock \$15,000), organized; J. P. McMahon, Pres.; D. Wurtzburger, V.-P.; J. D. Russell, Secy.; no plant at present; will install fuel-saving and smoke-consuming device on boilers and railroad engines.

Ga., Thomasville—Rice.—W. H. Burch will install rice-cleaning mill.

Ky., Hopkinsville—Cereal.—Southern Cereal Co. (lately noted incptd., capital stock \$50,000, by Thos. P. Cook and others) will manufacture breakfast food.

Ky., Louisville—Mop Wringer.—H. Scher & Son, capital stock \$1800, incptd. by H. Scher, M. J. Scher and J. Scher.

Ky., Louisville—Cosmetics, etc.—Stokes Mfg. Co., capital stock \$5000, incptd. by Thos. L. Eastin, Jos. H. Becker and John P. Davis.

Ky., Owensboro—Display Fronts.—Standard Mfg. Co. (lately noted incptd., capital \$100,000) organized; F. A. Ames, Pres.; W. W. Newberry, V.-P., Secy. and Mgr.; Gale B. Smith, Treas.; will manufacture sanitary display fronts for attachment to fronts of cracker, cake, fruit and fish boxes, etc.

Md., Baltimore—Poultry Food and Fertilizer.—Chesapeake Shell Co. let contract to Henry Rippel, 7 Clay St., Baltimore, to erect building for poultry food and fertilizer plant at Canton; 90x160 ft.; steel, sheet iron and concrete; slag roof; electric lights; cost \$25,000. (Lately noted.)

Md., Cumberland—Pipe Organs.—H. A. Burke Co., capital stock \$5000, organized by H. A. Burke, Isaac Hirsch and Henry Shriver to manufacture pipe organs and organ parts.

Miss., Hattiesburg—Wood Reduction.—Hattiesburg Wood Reduction Co., T. S. Jackson, Pres., will install additional machinery and increase daily capacity to 40 or 50 cords; issued \$25,000 additional stock. (Noted in Dec.)

Mo., St. Louis—Distillery.—Kellerstrass Distilling Co., capital stock \$35,000, incptd. by O. H. Cook, B. J. Tietzsch, J. I. Cook and others.

Mo., St. Louis—Electrical Devices, etc.—Vogel Products Mfg. Co., capital stock \$25,000, incptd. by H. F. Vogel, F. C. Case, Alex. D. Mermod and others.

Mo., St. Louis—Butter, Cheese, etc.—Consumers' Dairy & Farm Products Co., 527 N. Vandeventer Ave. (lately noted incptd., capital \$30,000) organized; R. Zirkmann, Pres.; Jno. R. Burton, V.-P. and Mgr.; B. Lieberman, Secy.; building plans undecided; fireproof structure; products include butter, cheese and eggs.

N. C., Greensboro—Wagon Brakes.—Windham Wagon Brake Co. (H. C. Markley and others) will establish plant to have daily capacity 200 wagon brakes. (Lately reported organized.)

N. C., Greensboro—Creamery.—J. A. Hornaday of Greensboro and W. J. Shuford of Hickory, N. C., contemplate installing additional machinery and improving Guilford creamery; propose daily capacity of 1000 lbs. butter.

N. C., Hickory—Creamery.—Catawba County Creamery Co., John W. Robinson, Pres., will build addition to creamery building; 2 stories; brick and stone; reinforced concrete floors; metal roof; Q. E. Herman, Archt., Hickory.

N. C., Winston-Salem—Tobacco.—Bailey Bros., Inc., will erect addition to factory; 50x31½ ft.; brick; 3 stories; Fogle Bros. of Winston-Salem, Contrs.

Okl., Oklahoma City—Remedy.—Ross Remedy Co., capital stock \$10,000, incptd. by J. J. Ross, John W. Nicely and J. M. Woody.

S. C., Campobello—Creamery.—Bermuda Creamery Co. organized with Carl G. Dornan, Prest.; M. E. Johnson, V.P.; A. P. Jones, Secy.-Treas.; contemplates operating co-operative creamery and dairy.

S. C., Charleston—Tires and Supplies.—Charleston Tire & Supply Co., capital \$1000, incptd.; J. P. Gaillard, Prest.-Treas.; E. B. Gaillard, V.P. and Secy.

Tenn., Chattanooga.—R. E. Schreck of Evanston, Wyo., is reported as contemplating erection of manufacturing plant.

Tenn., Clarksville—Bottling.—Coca-Cola Bottling Works states has purchased lot and let contract locally for erection of bottling plant to cost about \$6000 without equipment; has also bought machinery and supplies. (J. E. Pattie lately noted to build bottling plant.)

Tenn., Martin—Creamery.—S. H. Hall and G. S. Knox will build creamery; 2 stories; brick.

Tenn., Nashville—Nashville Mfg. Co., capital \$10,000, incptd. by Henry C. Williams, Joseph B. Wilson, E. C. Journey, C. E. Rogers and J. H. Turner.

Tenn., Nashville—Paint.—Briggs Bros. of Franklin, Ky., leased 3-story building at 421 Broadway, and will equip as paint factory and salesrooms; machinery purchased.

Tenn., Tullahoma—Marble and Granite.—Lewis C. Turpin, Propr. Warren County Marble and Granite Works, purchased site on which to build marble and granite works; install electric motors and compressed-air machines.

Tex., Beaumont.—Neches Rice Milling Co., capital \$50,000, incptd. by W. C. Tyrell, B. A. Steinhausen and others; purchased site and plant of Bettis Mfg. Co.; will convert latter into 1200-bbl. rice mill.

Tex., Houston—Ice-Cream.—W. H. Irvin Ice Co. will build ice-cream factory; 46x100 ft.; 2 stories; reinforced concrete; fireproof; exterior finished with pressed brick and stone trimmings, to be covered with white enamel; cost, with equipment, \$50,000; bids opened Feb. 8 at office of Jones & Tabor, Archts., Houston.

Tex., San Antonio.—Luthy Electric Mfg. Co., capital stock \$350,000, incptd. by Yale Hicks, J. O. Luthy and Chas. M. Dickson.

Va., Alexandria—Hospital Appliances.—Dr. A. Luria Ideal Hospital Appliance Co. of Chicago, Ill., is reported to erect branch plant to manufacture hospital beds, operating tables, surgical instruments, etc.; also to erect 54 smaller buildings, 7 for offices and remainder for employees' dwellings.

Va., Norfolk—Candy, etc.—Seaside Confection Corp., capital stock \$5000, chartered; G. J. Karangolen, Prest.; Jas. Poole, Secy.-Treas.

Va., Norfolk—Roofing, etc.—C. A. Monks Roofing & Mfg. Corp., 23d near Church St. (lately noted incptd., capital \$25,000), organized to conduct roofing and waterproofing business, also tar-rock subfloors; special attention to mill work; A. R. Stansbery, Prest.; C. A. Monks, V.P. and Mgr.; E. A. Odenthal, Secy.; E. H. Odenthal, Treas.

W. Va., Huntington—Ice-Cream.—Wilson Creamery Co. is reported as contemplating erection of ice-cream plant with daily capacity 4000 gals.

## MOTORS AND GARAGES

D. C., Washington—Garage.—J. W. Lee & Sons, 322 Pennsylvania Ave., has plans by Warren W. Youngs, 1413 T St. N. W., Washington, for garage at 1413 T St.; 100x50 ft.; 2 stories; fireproof; slag roof; electric light; freight elevator; cost about \$12,000.

Ga., Macon—Garage.—Napier's Garage, capital stock \$2000, incptd. by Geo. R. Napier, Jas. W. Napier and Lee S. Worsham.

Ga., Rome—Motor Trucks.—American Municipal Motors Co., capital stock \$15,000, incorporated by W. A. McCormick and M. C. Broach; build plant to manufacture motor trucks.

Ky., Louisville—Automobiles.—Nickel Automobile Co., capital \$10,000, incptd. by Wm. P. McDonough, Louis C. Heck, Jr., Wm. A. Baker and Stephen Jones.

La., New Orleans—Automobile Line.—Citizens' Co-operative Automobile Transportation Co., capital stock \$125,000, is being organized by J. Gonzales, W. R. Grace, G. W. Rowbotham and others; M. D. Connors, selling agent, 313 Canal Bank Bldg.

Md., Baltimore—Garage.—Henry Hoffberger has plans by Callis & Callis, 2055 Kennedy Ave., Baltimore, for garage at 418-30 N. High St.; 70x100 ft.; 2 stories; brick; slag roof; hot-water heat; electric lighting; among contractors estimating are: Reynolds & Hughes, 104 E. Saratoga St.; Singer-Pentz Co., Equitable Bldg.; J. L. Robinson Construction Co., Knickerbocker Bldg., all of Baltimore.

Mo., Kansas City—Automobile Line.—W. H. Miller is promoting organization of stock company to operate automobile line.

Okl., Oklahoma City—Automobiles.—Automobile Owners' Supply Co., capital stock \$10,000, incptd. by G. M. Smith, A. G. Adkins and E. W. Shannon.

Ola., Tulsa—Garage.—Ford Motor Co. (main office, Detroit, Mich.) let contract Latimer Construction Co. to build salesroom and service station at 3d and Detroit Sts.; fireproof; 60-ft. plate-glass front for display of cars; showroom 35x60 ft.; steam heat; plans and specifications by E. A. Rush & Co. of Tulsa.

W. Va., Moundsville—Garage.—Mound City Automobile Co. (Dennis Williams, J. W. Powell and others) is having plans and specifications prepared for garage at 7th St. and Tomlinson Ave.; 40x100 ft.; cement blocks; repair shop in connection.

## ROAD AND STREET WORK

Ala., Mobile.—Municipal Com. let contract F. G. Proudfoot of Chicago at \$4720 to resurface Capitol St. (vitrified brick) with asphalt.

Ala., Troy.—City contemplates paving streets. Address The Mayor.

Ark., Marshall.—W. C. Hight, Asst. State Highway Engr., Little Rock, will survey route for road from Leslie, Searcy county, to Tex., Van Buren county, 20 mi.

Ark., Pine Bluff.—City Council adopted ordinance providing for organization of improvement district to pave Cherry St. from 5th Ave. to 24th Ave., 19 blocks; F. R. Allen, City Engr.

Ark., Lake Village.—City, Wm. Yerger, Mayor, contemplates street paving.

Fla., Bradenton.—Manatee County, Sarasota-Venice Dist., votes March 15 on \$250,000 bonds to construct roads and bridges. Address County Commsrs. (Lately noted.)

Fla., Jacksonville.—City will pave Springfield Blvd. from 8th to 10th St. Address The Mayor.

Fla., Jacksonville.—City will place about 388 sq. yds. penetration pavement on concrete base with cement curb and gutter on Blvd. in front of lots 5 and 6, block 5, Springfield, between 2d and 3d Sts.; Committee on Public Works, S. C. Harrison, Jr., Chrmn., receives bids until Mch. 8. (See Machinery Wanted.)

Fla., Miami.—Dade county votes March 16 on \$100,000 bonds to place hard surface oil coating on main highway from north county line to Florida City. Address County Commsrs. (Lately noted.)

Fla., Palatka.—Putnam County Commsrs., J. H. Millican, Chrmn., will build 12 mi. brick or other hard material road; asking estimates. (See Machinery Wanted.)

Fla., Sarasota.—City will lay about 10,000 ft. additional sidewalks on 8th, 7th, 6th and other streets. Fitch P. Wright, Commsr. of Public Works.

Fla., St. Petersburg.—City will pave 2d St. from 8th to 12 Ave. and 12th Ave. from 1st to 2d St. with brick. Address The Mayor.

Ga., Dalton.—Whitfield County Commsrs. will construct experimental rock road.

Ga., Dublin.—City Council adopted resolution providing for street improvements, cold-storage plant for meat, garbage disposal plant, school buildings, etc. Address The Mayor.

Ky., Leitchfield.—Grayson County Fiscal Court appropriated \$5000 toward road construction; will petition for State aid.

Ky., Paducah.—McCracken county votes Feb. 27 on \$300,000 bonds to construct roads. Address County Commsrs.

Ky., Newport.—Major Helmbold recommends to City Commsrs. resurfacing of streets in shopping district with brick, etc. (See Water-works.)

Ky., Williamsburg.—Whitley county votes Apr. 24 on \$250,000 bonds to construct about 50 mi. of roads. Address County Commsrs. (Lately noted.)

La., Baton Rouge.—East Baton Rouge Parish Police Jury let contract N. M. George of Shreveport, La., at \$100,918.72 to improve roads in Dist. No. 2; 34 mi. graveled roads (not including gravel surfacing); these 34

mi. extend north and east on 3 principal highways and on 3 cross-roads.

La., Franklin.—St. Mary parish will construct road across parish along the Teche; about 60 mi.; plans to issue \$200,000 certificates of indebtedness. Address Police Jury.

Md., Baltimore.—Paving Com., City Hall, will recommend to Board of Awards letting of contract to American Paving & Contracting Co., Montebello Ave. and Jenkins La., to pave Baltimore St. from Fallsway to Broadway, Patterson Park Ave. from Essex to Pratt St., and Eastern Ave. from Ellwood Ave. to eastern city limits; materials to be sheet asphalt, brick and granite block. (Lately noted.)

Md., Frederick.—Frederick County Commsrs. will construct 2½-mi. link of State road connecting Brunswick with Jefferson State Rd.; estimated cost \$35,000.

Miss., Clarksdale.—City will construct 3 mi. gravel road; opens bids Mar. 3; \$20,000 available; W. S. Bobo, Engr., Clarksdale. (See Machinery Wanted.)

Miss., Clarksdale.—Coahoma county will construct 3½ mi. 16-ft.-wide gravel road; \$60,000 available; open bids Mar. 3; J. R. Shidler, Engr., Clarksdale; Dr. S. F. Carr, Chancery Clerk. (See Machinery Wanted.)

Miss., Gulfport.—Harrison County Supr. contemplates constructing beach highway.

Miss., Hazlehurst.—Copiah County Road Dist. No. 5 voted Feb. 6 on bonds to gravel about 57 mi. of roads. Address County Commsrs.

Miss., Laurel.—City will pave Front and 7th Sts. Address The Mayor.

N. C., Asheville.—Buncombe County Commissioners ordered construction of 5 mi. road in Sandy Mush section of county to cost \$13,000.

N. C., Asheville.—Buncombe County Commissioners will construct about 1½ mi. road from city limits to Grace; asphalt macadam; about 11,700 sq. yds.; cost \$10,000 to \$12,000; not decided as to letting by contract; Chas. H. Neal, Engr., Asheville.

N. C., LaGrange.—City contemplates street paving; will issue \$50,000 bonds for water-works, etc. Address The Mayor. (See Water-works.)

N. C., Pittsboro.—Chatham county, Oakland township, votes March 9 on \$20,000 bonds to construct roads. Address County Commsrs.

N. C., Pittsboro.—Chatham county, Centic township, votes March 9 on \$50,000 bonds to construct roads. Address County Commsrs.

N. C., Taylorsville.—Alexander county votes March 9 on \$150,000 bonds to construct roads. Address County Commsrs.

N. C., Wilkesboro.—Wilkes County Commissioners will petition Legislature for authority to vote on \$500,000 bonds to construct roads.

Okla., Cushing.—City will pave 11 blocks in business district. Address The Mayor.

Okla., Sapulpa.—City, S. J. Smith, Mayor, will construct 6 blocks alley paving; \$10,000 available; former bids rejected; will be re-advertised; C. L. Whittlesey, Engr.

Okla., Tulsa.—City will construct concrete sidewalks; E. B. Cline, City Auditor, receives bids until Feb. 15. (See Machinery Wanted.)

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Tex., Corpus Christi.—City voted \$100,000 bonds to pay city's one-quarter pro rata for street paving. Address The Mayor.

Tex., Corsicana.—City will pave 4th Ave. from N. 11th St. to 29th St. with gravel concrete macadam. Address The Mayor.

Tex., Corsicana.—City will pave portions W. 2d, E. 5th and W. 7th Ave. with bituminous, brick, asphalt macadam, asphaltic concrete or rock asphalt; concrete curbs and gutters; J. A. Harper, City Secy., receives bids until Feb. 23. (See Machinery Wanted.)

Tex., Cuero.—De Witt county voted \$50,000 bonds to construct about 14 mi. of roads. Address County Commsrs.

Tex., Denton.—City voted \$10,000 to improve streets. Address The Mayor. (See Water-works.)

Tex., Fort Worth.—City will improve 5th Ave. from Robert Ave. to Jessamine St.; width of street 30 ft.; contain about 4167 sq. yds.; bituminous, rock asphalt or vitrified brick pavement; F. J. von Zuben, City Engr. invites bids until Feb. 16. (See Machinery Wanted.)

Tex., Galveston.—City let contract P. J. Vautrin to pave 10 blocks of streets.

Tex., Longview.—Gregg county contemplates voting on \$300,000 bonds to construct about 75 mi. of macadam roads. Address County Commsrs.

Tex., Marshall.—City let contract Bert Hahn Construction Co. of Dallas at \$17,556.80 to pave E. Austin St. from Lafayette to Johnson St. with asphalt rock on concrete base; gutters and concrete curb; contract is exclusive of 7 ft. in middle of street, which will be paved by Marshall Traction Co.

Tex., Midlothian.—City will pave 18,335 ft. sidewalks; about 5000 ft. concrete crossings at intersections of streets; in addition, private contracts aggregating 3000 ft. will be let. Address The Mayor.

Tex., San Antonio.—San Antonio-Austin Government Post Road, through Travis, Hays, Comal, Guadalupe and Bexar counties, will now be constructed; contract let to A. M. Clopton, Elgin, Tex., for work involving \$150,000 in Hays, Comal and Guadalupe counties, and to George & Sons, Shreveport, La., contract in Travis county, involving \$50,000; work in Bexar county to be constructed by force account, cost \$30,000; 80-mi. macadamized road, with reinforced concrete structures, connecting army posts of Austin and San Antonio; specifications by U. S. Government, W. A. Crossland, Senior Engr., San Antonio. (Previously noted and described.)

Va., Bedford City.—Bedford county will grade and improve about 5½ mi. road between Forest and Bellvue; bids received at County Clerk's office until Feb. 16; G. P. Coleman, State Highway Commr., Richmond. (See Machinery Wanted.)

Va., Dublin.—City, J. A. Gaines, Clerk, will construct street curbing at cost of about \$200; open bids Feb. 20; lately noted. (See Machinery Wanted.)

Va., Portsmouth.—Norfolk County Road Board let contract to O. L. Williams to improve High St. to Rodman Ave., Rodman Ave. from High to King St. and King St. to Western Branch, all in Westhaven.

Va., Pulaski.—City sold \$80,000 bonds to improve streets; will construct concrete and macadam pavement, curb and gutter; date of opening bids not set, but probably between March 10 and 15; M. S. Hudgins, City Engr.

Va., Richmond.—Henrico County Supr. let contract Tidewater Construction Co. at \$361 to improve Creighton Rd. from city limits to Chickahominy Swamp.

Va., Richmond.—Administrative Board directed State Highway Commr. Geo. P. Coleman to invite bids for bituminous macadamizing of Cary St. from city limits to County Club of Virginia, cost to be provided for out of \$100,000 appropriation for improvement of county roads leading into city under recent agreement between city and County Supr.; State Highway Commr. will also invite bids to gravel Nine-Mile Rd. from city limits to Stop 19, gravel Williamsburg Rd. from city limits to Seven Pines, and macadamize Osborne turnpike from city limits to Sullivan's Store.

Va., South Boston.—City, W. L. Penick, Mayor, contemplates bond issue for paving construction. (See Water-works and Machinery Wanted.)

Va., Huntington.—Cabell county contemplates voting on about \$600,000 bonds to construct roads. Address County Commsrs.

W. Va., Parkersburg.—City voted \$200,000 bonds to pave streets, construct sidewalks, curb and sewers; Allen C. Murdoch, Mayor. (Lately noted.)

## SEWER CONSTRUCTION

Ala., Bay Minette.—City let contract Sullivan, Long & Haggerty Co. of Bessemer, Ala., to construct sewer system, water-works and electric-light plant; about 3½ mi. sewer pipe; Engr., Edgar B. Kay, Tuscaloosa, Ala.; W. D. Stapleton, Mayor. (Noted in December.)

Ark., Heber Springs.—City will have preliminary survey made and contemplates expenditure of \$100,000 on lately-noted sewer and water-works construction; W. F. Cook Co., Engr., Little Rock, Ark.

Ark., Lake Village.—City, Wm. Yerger, Mayor, contemplates installing sewer system.

D. C., Washington.—District Commrs., 509 District Bldg., will construct 3500 lin. ft. trunk sewers, 6 ft. 6 in. span to 7-ft. span; receive bids until Feb. 15. (See Machinery Wanted.)

Ga., Richland.—City votes March 24 on \$20,000 bonds to construct sewer system and extend water and light systems. Address The Mayor. (Lately noted.)

Ky., Newport.—Mayor Helmbold recommends to City Commrs. reconstruction of sewers, etc. (See Water-works.)

Md., Baltimore.—City will construct Section 2 of Ogiers Run interceptor (Storm-Water Contract No. 36) and Section 3, east low-level interceptor (Sanitary Contract No. 18); former contract calls for 11,000 cu. yds. excavation, 2900 cu. yds. concrete, 145 cu. yds. brick masonry, 120,000 lbs. reinforcing steel, etc.; latter requires 9000 cu. yds. earth excavation and refill and 2600 lin. ft. 36-in. sewer; Board of Awards receives bids until Feb. 24. (See Machinery Wanted.)

Mo., Kansas City.—City let contract to Michel Walsh, Kansas City (lately noted as lowest bidder), at \$103,000 for construction of 12-in. to 60-in. sewers, laterals, manholes, catch basins, etc., complete; Curtis Hill, City Engr.

Mo., Rich Hill.—City engaged W. B. Rollins, Consult. Engr., Kansas City, to make preliminary survey and furnish estimate of cost of constructing sewerage system. H. E. Sheppard, Mayor.

N. C., Morehead.—City, E. H. Gorham, Mayor, will purchase lately-noted sewer-construction material Feb. 19; about 23,000 ft. sewers; construction by city; J. B. McCrary Co., Engr., Atlanta, Ga. (See Machinery Wanted.)

S. C., Walterboro.—City engaged H. S. Jaudon Engineering Co. of Savannah, Ga., to prepare maps, blueprints, etc., and supervise construction of sewer system. (Lately noted.)

Tex., Fort Worth.—Herring & Gregory, Engrs., New York, filed report with City Secy. Harwood, estimating cost of complete sewage disposal works, including main outfall sewer at \$782,000; works recommended to have daily capacity of 12,500,000 gals.; suggested that if sufficient funds are not now available to construct complete system, new outfall sewer and clarification works will be built first at estimated cost of \$363,000; later would be possible to complete system; also recommends erection of garbage incinerator; F. J. Von Zube, City Engr. (Noted in November.)

Tex., Houston Heights.—Houston Heights Citizens' Committee and Council accepted plans by Howe & Wise of Houston for first unit of storm-water drainage system; engineers will prepare specifications and invite bids; proposed section of sewer will extend from White Oak Bayou to about 7th Ave., 1600 ft.; 7-ft. diam.; reinforced concrete; estimated cost \$35,000.

Va., South Boston.—City, W. L. Penick, Mayor, contemplates bond issue for sewer construction. (See Water-works and Machinery Wanted.)

Va., Suffolk.—City contemplates constructing sewer system in Holland-Baker and Philadelphia residential sections; estimated cost \$7800. Address The Mayor.

W. Va., Parkersburg.—City voted \$200,000 bonds to construct sewers, etc.; Allen C. Murdoch, Mayor. (See Road and Street Work.)

## TELEPHONE SYSTEMS

N. C., Gatesville.—Gates Telephone Co. (lately noted inceptd., capital stock \$15,000, by Matthew Riddick, Jr., T. G. Hayes, J. W. Brown and others) will open bids for erection of \$10,000 exchange building; construct 150 to 200 mi. rural lines; need equipment. (See Machinery Wanted.)

Tex., Crosby.—Crosby Telephone Co. (lately noted inceptd., capital stock \$5000) will construct 50 mi. telephone line; no bids.

Tex., Ennis.—Independent Telephone Co.

will acquire Southwestern Telephone Co.; plans to include \$30,000 in improvements to include placing wires underground.

Tex., Hereford.—Block Telephone Co. organized with E. Edmonds, Prest.; Henry F. Miller, V.-P., and H. C. Doicater, Secy.-Treas.; proposes to build telephone system to connect with central in Canyon, Tex.

Tex., Round Top.—Farmers' Telephone Co., capital stock \$1040, inceptd. by Fritz Knoche, E. A. Wells and others.

## TEXTILE MILLS

Ga., Columbus—Cotton Goods.—Muscogee Mfg. Co., Edw. W. Swift, Prest., is reported as considering erection of addition for bleaching-room; reported that plans have been prepared.

Ga., Columbus—Hosiery.—Perkins-Massey Hosiery Mills contemplates improvements to plant including installation of steam plant to operate both mills; may also install additional machinery and increase capacity.

Ga., Macon—Cotton Goods.—Bibb Mfg. Co. will expend about \$60,000 in improvements to Bibb Mills No. 1 in East Macon; let contract to Gallivan Building Co. of Greenville, S. C., to remodel old building, which is 500 ft. long, and erect additional brick structure 80x132 ft.; install machinery.

Ga., Rome—Cotton Duck.—Anchor Duck Mills will build 200x100-ft. addition, with 50x40-ft. ell, costing \$30,000; let building contract to Gallivan Building Co., Greenville, S. C.; will install machinery costing \$35,000.

N. C., Walnut Cove—Hosiery.—John R. Lackey contemplates establishment of hosiery mill; interested in prices on machinery. (See Machinery Wanted.)

Tenn., Knoxville—Cotton Cloth.—Brookside Mills will build 74x50-ft. 2-story mill-construction addition to clothroom; has let contract to J. M. Dunn & Son, Knoxville.

## WATER-WORKS

Ala., Bay Minette.—City let contract Sullivan, Long & Haggerty Co. of Bessemer, Ala., to construct water-works, electric-light plant and sewer system; water-works to include reservoir, tower and tank, 25 fire hydrants, about 4 mi. mains, etc.; Edgar B. Kay, Engr., Tuscaloosa, Ala.; W. D. Stapleton, Mayor. (Noted in December.)

Ala., Mobile.—City will extend "Southern Drain;" open bids Feb. 23; about 1865 ft. reinforced concrete culvert, sizes 10x4½ and 12x4½; cost about \$10,000; Wright Smith, City Engr. (See Machinery Wanted.)

Ark., Glenwood.—City has plans for water-works to be constructed upon sale of bonds; capacity of plant, 1,000,000 gals. per 24 hours; machinery and equipment to be installed includes pumps, oil engine, electric motor and steel tank and tower; United Engineering & Construction Co., Muskogee, Okla., Engr. (Bonds to amount of \$100,000 previously noted for water and sewer systems.)

Ark., Heber Springs.—City contemplates expenditure of \$100,000 for lately-noted water-works and sewerage construction; will have preliminary surveys made by McCrary Co., Little Rock, Ark.

Ark., Luxora.—Luxora Water & Light Co. will expend \$1000 to construct lately-noted concrete tank of 100,000 gals. capacity; local contractor.

D. C., Washington.—Government let contract L. B. Jacobs of Newark, Del., to remodel pumping plant at Government Hospital for Insane.

Fla., Bonifay.—Bonifay Light & Water Co., A. L. Byrd, Engr., will open bids March 1 for lately-noted distributing system; cost \$3000; will need 80 ft. 6-in. cast-iron pipe and about 6000 ft. 2-in. wrought-iron pipe; deep well already driven and tank erected. (See Machinery Wanted.)

Fla., Dunedin.—L. B. Skinner Mfg. Co. will install complete automatic sprinkler system and water tower in factory and warehouse; estimated cost \$5000; brick pumphouse; 50,000-gal. tank on 72-ft. tower; system to protect 25,000 sq. ft. floor area.

Fla., Tarpon Springs.—City will build additional water tower with capacity of 75,000 gals.; A. P. Albaugh, Prest. of Council. (Lately noted.)

Ga., Quitman.—City placed contracts for equipment for lately-noted water-works and electric-light plant; includes following: Babcock & Wilcox Co., Atlanta, Ga., two 175 H. P. water-tube boilers, with superheaters; Ames Iron Works, Atlanta, two 400 H. P. engines; General Electric Co., Jacksonville, Fla., two 250 K. V. A. alternators, with belted excitors, 7-panel switchboard, etc.; Platt Iron Works Co., Dayton, O., motor-driven pumps; Alberger Pump & Condenser

Co., Atlanta, condenser and equipment; J. B. McCrary Co., Atlanta, Engr.

Ga., Richland.—City votes March 24 on \$20,000 bonds to extend water and light systems and construct sewers. Address The Mayor. (Lately noted.)

Ky., Marion.—Marion Water & Ice Co. has indefinitely postponed action relative to water-works construction. (Previously noted.)

Ky., Newport.—Mayor Helmbold recommends to City Commrs. improvement of water system, reconstruction of sewers and resurfacing of streets in shopping district with brick.

Miss., Biloxi.—City will extend water-works; appropriated \$2000. Address The Mayor.

Miss., Belzoni.—City will purchase and install pump with capacity of from 432,000 to 720,000 gals.; J. J. Sisloff, Supt.

Mo., Monett.—City let contract Keystone Driller Co., Carthage, Mo., to drill 2 deep wells and rebuild plant; Keystone Co. advises has let contracts for all materials. (Lately noted.)

Mo., Oregon.—City contemplates improvements to water-works to include purification plant, water mains and standpipe; Morton R. Martin, Supt.

Mo., Oregon.—City will build additional standpipe, install purification plant and lay additional mains with fire hydrants; Morton R. Martin, Supt.

Mo., West Plains.—City will install triplex pump of 634,000 gals. capacity operated by electric motors; also install electric motor of 40 H. P. for air-lift system; cost about \$2000; V. V. Sears, Com'r.

N. C., Asheville.—City petitioned Legislature for authority to issue \$50,000 bonds to secure greater watershed facilities; J. E. Rankin, Mayor. (Lately noted to lay additional pipe.)

N. C., LaGrange.—City will issue \$50,000 bonds to construct water-works and electric-light plant and probably pave streets. Address The Mayor.

N. C., Morehead City.—E. H. Gorham, Mayor, will purchase lately-noted water-works material Feb. 19; construction by city; J. B. McCrary Co., Engr., Atlanta, Ga. (See Machinery Wanted.)

Okl., Quinton.—City will vote on bonds to construct water-works; Alexander Engineering Co., Oklahoma City, proposes to make estimates, surveys, etc.

Okl., Jennings.—City engaged Al McFarland of Tulsa, Okla., to superintend construction of water-works; water to be obtained from wells to be drilled in city park; voted \$25,000 bonds. (Lately noted.)

Okl., Red Rock.—City voted lately-noted \$22,000 bonds for water-works construction; plans and specifications being prepared by Benham Engineering Co., Oklahoma City.

S. C., Anderson.—Southern Public Utilities Co. will expend about \$5000 to construct lately-noted reinforced concrete filter, 650,000 gals. capacity, and concrete a storage reservoir, 1,000,000 gals. capacity; material supplied by local firms and work done locally.

S. C., Walterboro.—City engaged H. S. Jaudon Engineering Co. of Savannah, Ga., to prepare maps, blueprints, etc., and supervise extension and enlargement of water-works. (Lately noted.)

Tex., Denton.—City voted \$112,000 bonds as follows: \$10,000 to extend water and light systems; \$2000 to build settling tank of 300,000 gals. capacity; \$10,000 to improve streets; \$15,000 for fire apparatus, and \$75,000 to erect 3 school buildings, repair other buildings and install sewerage. Address The Mayor. (Lately noted.)

Tex., Ennis.—City will erect brick buildings around pump stations at city deep wells and lakes. Address The Mayor.

Tex., Groesbeck.—City will issue \$10,000 bonds for water-works improvements; J. W. Thompson, City Clerk.

Tex., Magnolia Park, P. O. Houston.—City, W. H. Farrington, Secy., asks bids until Feb. 23 on lately-noted water-works construction; M. Griffin O'Neill & Sons, Engrs., 1505 Praetorian Bldg., Dallas, Tex. (See Machinery Wanted.)

Tex., Ozona.—Frank F. Friend and others will install water and electric-light plant.

Tex., Wills Point.—City, H. Gilchrist, Mayor, will expend \$10,000 (lately noted voted) in installing distribution pipe; has completed water-works construction to the city.

Va., Dublin.—City, J. A. Gaines, Clerk, will extend mains at cost of \$5000; bids opened Feb. 20; lately noted. (See Machinery Wanted.)

Va., South Boston.—City, W. L. Penick, Mayor, contemplates bond issue for water-works, sewer and street paving construction. (See Machinery Wanted.)

W. Va., Mingo.—City will vote on \$39,000 bonds for water-works. Address The Mayor.

W. Va., Morgantown.—West Virginia Tract & Electric Co., 12th and Chapline Sts., Wheeling, W. Va., will have lately-noted water plant improvements constructed by company's employees; all material purchased.

## WOODWORKING PLANTS

Fla., Dade City—Boxes, etc.—C. I. Walter of Indiana (care of Dade City Board of Trade) is considering establishment of plant to manufacture boxes, crates, etc.

Md., Baltimore—Doors, etc.—Morgan Millwork Co., 113-21 North Ave., contemplates erecting extension to plant.

N. C., Greensboro—Boxes.—Roberson & Strader of Belews Creek, N. C., will build box factory; 60x100 ft.

N. C., Wilmington—Handles, etc.—Levering Mfg. Co., capital \$50,000, inceptd. by A. C. Levering, L. M. Levering, Jr., and Herbert McClammy.

Tenn., Jackson—Cooperage.—Haran-Morris Mfg. Co., Corinth, Miss., will install cooperage plant.

Tenn., Morristown—Furniture.—H. M. Weller, Sanford, N. C., is organizing company to establish furniture factory, making specialty of library furniture; leased building; purchases parts in "kid white" from Hardwood Top & Panel Co. and produce finished tables, cabinets, etc.

Va., Stuart—Barrels, etc.—J. D. Blackard Stave & Cooperage Co. will install equipment to manufacture barrels, boxes, etc.; purchased machinery.

## FIRE DAMAGE

Ala., Collingsville.—G. L. Edwards' gin; loss \$200.

Ala., Courtland.—Colonial Hotel, owned by Chas. Sherrod; Mrs. Mary Sherrod's residence.

Ala., Opp.—Central Warehouse; loss \$150,000.

Ark., Argenta.—Three barns at Riverside Stock Farm, 5 mi. from Argenta, owned by Geo. E. Cockmon, 1401 W. 22d St., Little Rock, Ark.; loss \$8000.

Ark., Blytheville.—E. A. Barnett's residence at 300 Cherry St.; loss \$3000.

Ark., Conway.—West Drug Co.'s store, building owned by Sam Frauenthal; loss \$3000.

Ark., Morriston.—Plumkett-Jarrell Grocery Co.'s main warehouse, owned by Mrs. Sallie Mason; loss \$35,000.

Ark., Nettleton.—Henry Willoughby's residence; loss \$3500.

Fla., Dunnellon—Postoffice; Metcalf Drug Co.'s store.

Fla., Jacksonville.—Cigar-box factory at 715 Washington St., operated by J. R. Jack, 1713 E. Ashley St., and W. H. Jack, 420 E. 4th St.; loss on machinery and supplies in building \$15,000.

Ga., Adel.—J. S. Wright's residence; loss will be about \$3000.

Ga., Atlanta.—Marbut & Minor's store at Flat Shoals and Glenwood Ave.; loss \$12,000 to \$15,000.

Ga., Hartwell.—Goldmine Ginnery in Hart county, owned by L. S. Brown; loss \$4000.

Ky., Frankfort.—Columbia Moving-Picture Theater in Hume Bldg.; loss \$6000.

Ky., Johnsboro.—John McLaughlin's store.

Ky., Mt. Sterling.—Enoch Mfg. Co.'s lunchbox and glove factory damaged; estimated loss \$10,000.

Ky., Newbern.—Bluegrass Inn, Thomas W. Fordyce, Mgr.; loss \$80,000.

Ky., Whitesburg.—D. D. Ison's store and residence at Neon; loss \$12,000.

Ky., White Plains.—Bank and stores of C. D. Dillingham and Dick Owen; loss several thousand dollars.

La., Alexandria.—P. H. Hynson's syrup factory on Bayou Rapides.

La., Jackson.—Building of Frank Vresinski, Klein Bros., W. L. Adams, A. C. Werber, W. W. Paine and D. M. Pipes.

La., Manghan.—Manghan State Bank Bldg. was not damaged by fire as lately noted.

La., Shreveport.—E. H. Randolph's residence at 837 Jordan St.; loss \$20,000.

La., Shreveport.—Henry Enders Furniture Co.'s warehouse; loss \$25,000.

Md., Elkridge.—Louis Silbereisen's residence and store on Washington Rd.

Miss., Merigold.—S. F. Perry's 2 buildings; loss \$7000.

Miss., Weir.—Lynch Drug Co.'s store; Smith, McKinnon & Co.'s store; loss \$12,000.

Mo., Rich Hill.—Bates Mining Co.'s engine house.

Mo., St. Louis.—John Moore's residence at Price & Clayton Rds.; loss \$25,000.

N. C., Lumberton.—W. W. Carlyle's building on Elm St.

N. C., Sanford.—K. R. Hoyle's dwelling; loss \$5000.

N. C., West Durham.—Mrs. J. L. Council's 4 buildings, loss \$4000; A. L. Bowen's residence and meat market, loss \$4500; Victor Kaplan's store, loss \$16,000.

N. C., Winston-Salem.—Crystal Ice Co.'s plant damaged; loss \$3000 to \$5000.

Okl., Oklahoma City.—Garrison Coal Co.'s barn; loss \$8000.

S. C., Darlington.—Milling & Williams' tobacco warehouse.

S. C., Poston.—Poston Hotel, owned by A. L. Poston; loss \$3500.

Tenn., Chattanooga.—Will Elder's residence on Bird's Mill Rd.

Tenn., Germantown.—A. B. Lanning's residence at Hack's Crossing, occupied by G. B. Clarke.

Tenn., Kenton.—John A. Holloman's store and dwelling at Mason Hall; loss \$7000.

Tenn., Monterey.—W. R. Matheny's residence.

Tenn., Stantonville.—Wyatt Bros.' store.

Tex., Burnet.—Burnet Granite Co.'s monument and marble works; estimated loss \$10,000.

Tex., Dallas.—A. H. March's dwelling at 601 N. Bishop St., Oak Cliff; loss \$4500.

Tex., Dallas.—N. C. Siddons' residence at 3408 Holmes St.; loss \$3500.

Tex., Garwood.—Elo Embrock's rice warehouse; loss \$20,000.

Tex., Little Elm.—M. Kanoman's residence near Little Elm; loss \$8000.

Tex., Montgomery.—Masonic Temple and Opera-House.

Tex., Temple.—Freeman Moore's residence on N. 13th St.; estimated loss \$10,000.

Tex., Vernon.—Mrs. D. C. Darnell's residence; loss \$6000.

Tex., Waco.—John Garrison's bakery at 721 Austin Ave.; building was owned by Green Higginson and A. C. Patton; estimated loss \$5000; on stock and equipment \$4000.

Va., Berkley, Station Norfolk.—I. Harry Goodman's store at Liberty and 6th Sts.; loss \$7000.

Va., South Boston.—R. Allie Edmondson's residence.

W. Va., Brushfork.—Public school; loss \$3000. Address School Trustees.

W. Va., Edway.—J. E. Barlow's store; loss \$3000.

W. Va., Fairmont.—Murphy-Deveny Building on Madison St.; loss about \$10,000.

W. Va., Philadelphia.—Louis Fisher's residence at Chapline Hill, near Philadelphia; loss \$7000.

W. Va., Weston.—J. M. Hickman's store; John Aspinall's store; loss \$25,000.

**DAMAGED BY STORM.**

La., New Orleans.—St. Alphonsus Orphan Asylum at Franklin and 4th St., owned by Redemptionist Fathers; loss \$5000.

**KY., Maysville.—Knights of St. John will erect store and lodge building; 2 stories; brick.**

Md., Baltimore.—Y. W. C. A., Miss Isabelle H. Harman, Gen. Secy., Park Ave. and Franklin St., will erect building to replace present structure and adjoining building; 68x140 ft.; probably 6 or 7 stories; architect not decided; competitive drawings.

Mo., Joplin.—Joplin Lodge No. 299, Knights and Ladies of Security, will erect building; 3 stories; brick; probably 60x50 ft.; cost \$10,000.

Mo., Joplin.—Joplin Lodge of Perfection No. 5, Scottish Rite Masons, is reported to erect cathedral at 4th St. and Byers Ave.; cost \$150,000; A. H. Forsythe, Senior Warden.

Okl., Atoka.—A. F. & A. M. will receive bids through E. T. Johnson, Secy., care American National Bank, until Feb. 12 to erect 3-story Masonic Temple; cost not to exceed \$15,000; plans and specifications on application to Mr. Johnson.

Okl., Norman.—Norman Lodge No. 38, A. F. & A. M., will erect business and lodge building; cost about \$10,000.

Okl., Ponca.—A. F. & A. M. plan to erect Masonic temple; will not consider details until July 1; H. J. Seybold, Secy. Lodge No. 83.

**BANK AND OFFICE**

Ga., Albany.—Union City Seed & Fertilizer Co. will erect office building.

Md., Cumberland.—Holzshu Co. contemplates erecting store and office buildings on Liberty St.

Va., Purcellville.—Purcellville National Bank, C. L. Robey, Cash., is having plans prepared by Milburn, Heister & Co., 603 Union Savings Bank Bldg., Washington, D. C., for bank building; 1 story; probably brick and stone; steam heat; cost about \$25,000.

Miss., Gulfport.—Gulf Coast Life Insurance Co. is reported having plans prepared for office building on East Beach between Gulfport and Biloxi.

N. C., Charlotte.—First National Bank is having plans prepared by Louis H. Asbury, Charlotte, for bank building.

Okl., Okeene.—Citizens' State Bank plans to erect brick bank building.

Okl., Sapulpa.—Frank Smith will erect store and office building.

S. C., Rock Hill.—A. C. Izard will erect store and office building. (See Stores.)

Tex., El Paso.—El Paso Union Stockyards will erect office building. (See Miscellaneous.)

Tex., Irene.—Bank of Irene will erect bank building.

Va., Alexandria.—Dr. A. Luria Ideal Hospital Appliance Co., Chicago, is reported to erect 7 office buildings in connection with plant to be established. (See Miscellaneous Factories.)

**CHURCHES**

Ark., Newport.—Christian Church has plans by Mitchell Seligman, Pine Bluff, Ark., for building; brick; stone trimmings; asbestos shingle roof; auditorium 40x44 ft.; seating capacity 500; cost \$10,000.

Fla., Miami.—Rev. Father McLaughlin, pastor, will erect building at Avenue C and 10th St.

Ga., Cuthbert.—Williams Church, Rev. N. H. Williams, pastor, will erect building.

Md., Baltimore.—St. Luke's Reformed Church, Rev. Atvill Connor, pastor, 3505 Payson St., is reported having plans prepared by J. E. Laferty, 11 E. Pleasant St., Baltimore, for building to cost about \$25,000.

Mo., Kansas City.—Church of the Visitation, Rev. Thos. B. McDonald, pastor, is having plans prepared by Owen & Payson, Kansas City, for building at 5137 Main St.; 56x110 ft.; hollow tile construction; asbestos shingle or tile roofing; cost \$35,000; construction begins about April 1. (Lately noted.)

N. C., Salisbury.—Holmes Memorial Church will erect building; cost \$8000. Address The Pastor.

Okla., Cushing.—Baptist Church, Rev. W. T. Scott, pastor, plans to erect brick building; cost about \$15,000.

Okla., Woodward.—First Baptist Church receives bids through Secy. of Building Co., 1304 Texas Ave., until Mch. 1, to erect building; 72x82 ft.; vitrified brick; composition roof; cost \$15,000; plans and specifications at office of J. O. Parr, Archt., 620 Security Bldg., Oklahoma City, and P. E. Bourne, Woodward; separate bids for heating, furniture, etc.

Tex., Fort Worth.—Rosen Heights Church will erect building; cost \$12,000. Address The Pastor.

**CITY AND COUNTY**

Fla., Bartow.—City Hall.—City opened bids to erect city hall; are considering two lowest bids submitted by Howard & Wread, Sarasota, Fla. (\$10,000), and J. J. Johnson, Bartow (\$11,072.19); plans by Mark & Shewell, Suite 210 Clark Bldg., Jacksonville, call for structure 40x60 ft.; 3 stories; ordinary masonry construction; brick; stone trimmings; tile roof with tin or tar and gravel deck; electric light and heat. (Lately noted.)

Fla., Clearwater.—City Hall, etc.—City accepted plans by Lester Avery, Clearwater, for alterations to city hall and erection of addition; installation of plumbing system, etc.; addition to contain quarters for firemen, fire engine and fire-fighting apparatus.

Fla., Jacksonville.—Armory.—Duval County Commls. are having plans prepared by Tally & Summer, St. James Bldg., Jacksonville, for armory; reported to be 3 stories; 154x178 ft.; brick; concrete columns; tar and gravel and composition roofing; steam heat; drill hall and auditorium 82x117 ft. to accommodate 2500; swimming-pool 25x50 ft.; cost \$150,000; E. A. Ricker, Chrmn. Board of Commls. (Lately noted.)

Fla., St. Augustine.—Jail.—St. Johns County Commls. receive bids until March 2 for cell-work and repairs to jail; plans and specifications at office of Clerk of Circuit Court; W. Wallace Snow, Clerk of Board of Commissioners.

Ga., Albany.—Auditorium, etc.—City will vote on \$80,000 bonds, portion of which will be used to erect auditorium and theater and \$40,000 to erect school; H. A. Tarver, Mayor.

La., New Orleans.—Water Department.—Sewerage and Water Board plans to erect 5-story fireproof building at Carondelet and Lafayette Sts.

N. C., Elizabeth City.—Jail.—City plans to erect jail to cost about \$10,000; N. G. Grandy, J. L. Pritchard and S. W. Gregory, Com.; Pasquotank county also plans to erect annex to county jail, install heating apparatus, water and sewerage at cost of about \$3000; C. H. Robinson, Chrmn. of Com.

Tex., Dallas.—Bathhouse.—City Park Board is considering tentative plans by Geo. E. Kessler, St. Louis, for installation of \$40,000 swimming pool in Lake Cliff Park, including erection of \$15,000 bathhouse.

Tex., Houston.—Warehouse.—City is preparing to begin construction of first unit of wharf to include warehouse 500x200 ft.; Ben Campbell, Mayor. (See Miscellaneous Construction.)

Tex., Madisonville.—Jail.—Madison County Commls. will erect lately-noted jail; 2 stories; about 20x30 ft.; fireproof; bids received until Feb. 8 on building, complete, with all mechanical equipment necessary to accommodate 28 prisoners, using cages in present jail, which accommodate 16 prisoners; cost \$1500 to \$2000 without mechanical equipment. Address Joe F. Webb, County Judge. (See Machinery Wanted.)

**COURTHOUSES**

Md., Prince Frederick.—Clerk of Calvert County Commls. receives bids until March 6 for material and erection of courthouse; 70x80 ft.; mill construction; tin roof; cost \$25,000; plans and specifications at office of T. Kent Roberts, Archt., 924 17th St. N. W., Washington, D. C., and J. Briscoe Bunting, Secy. of Com., Prince Frederick.

Okla., Okmulgee.—Okmulgee county will spring on bonds to erect courthouse; fireproof; cost \$150,000 without mechanical equipment. Address County Commls.

Tex., Amarillo.—Potter county is having plans prepared by W. M. Rice, Amarillo, for improvements to courthouse; 64x104 ft.; stone construction; tile roof; city lights; will construct portion of fourth story and new roof over entire structure; cost \$15,000 to \$20,000; bids opened about Feb. 15. (Lately noted.)

**DWELLINGS**

Ala., Birmingham.—E. C. Bowman will erect 2-story brick-veneer residence at 3438 Norwood Blvd.; cost \$6500.

Ala., Birmingham.—L. P. Smith will erect 2-story frame residence at Cliff Rd. and 31st St.; cost \$4500.

Ala., Clio.—D. J. Atkinson will erect residence.

Ala., Mobile.—Robin Herndon is having plans prepared by Hutchinson & Denham, Mobile, for residence; 10 rooms; 2 stories; colonial style; cost \$8000.

Ala., Walker Springs.—W. H. Miles will erect residence.

D. C., Washington.—D. J. Partello, 707 Varnum St., has plans by Claughton West, 201 Corcoran Bldg., Washington, for dwelling at 4219 7th St. N. W.; 2 stories; 30x28 ft.; frame; pebble dash finish; shingle roof; hot-water heat; electric light; cost about \$4000; construction by owner.

D. C., Washington.—W. C. Blundon, 15 Rhode Island Ave. N. W., has plans by Merrill T. Vaughn, Woodridge, D. C., for 11 dwellings at 15th and Allison Sts.; 18x52 ft.; single roof; mill construction; electric and gas light; hot-water heat; cement and concrete sidewalks; construction by owner, and he will let subcontracts; cost \$4000 each. (Lately noted.)

Fla., Clearwater.—Alfred C. Turner will erect residence on Fort Harrison Ave.; 32x68 ft.; ordinary construction; asbestos shingle roof; cost \$3000.

Fla., Okeechobee.—Smith I. Drawdy will erect residence on S. Park St.

Fla., Daytona.—H. H. Windsor, Pub. of Popular Mechanics, Chicago, Ill., will erect residence.

Fla., Daytona.—Clark Richardson will erect bungalow.

Fla., Daytona.—J. T. Nelson will erect residence.

Fla., Daytona Beach.—Henry C. Rowe, New Haven, Conn., is reported having plans prepared for residence; 30x74 ft.; frame; slate roof; chimneys; foundation and porch work of coquina stone; hardwood floors and trim; heating system; laundry.

Fla., Jacksonville.—W. S. Wills will erect residence; 6 rooms; brick veneer.

Fla., Orlando.—W. C. Parks will erect residence.

Fla., Miami.—E. C. Thompson will erect residence; E. A. Nolan, Archt., Miami.

Fla., Sarasota.—M. L. Young will erect 8-room bungalow.

Fla., Santa Rosa.—J. D. Washbourne will erect residence.

Fla., West Palm Beach.—J. B. Encell will erect six 3-room cottages; cost \$3000.

Ga., Athens.—Miss Mary Anne Frierson will erect 2-story residence at Harris and Hancock Sts.

Ga., Atlanta.—J. C. Oliver will erect 2-story frame dwelling at 249 N. Moreland Ave.; cost \$5000; day labor.

Ga., Atlanta.—Mrs. L. H. Daniel will erect frame dwelling; cost \$3000; day labor.

Ga., Fort Valley.—A. J. Evans has plans by Haip & Shelverton, Macon, Ga., for residence and garage; 2 stories and basement; brick veneer; tile roof; hot-water heat; cost \$20,000; construction to begin March 1; W. F. Thames, Supt. of Con. (Lately noted.)

Ga., Lagrange.—Church Allen will erect 6-room residence.

Ga., Jeffersonville.—Wm. Rawl will erect residence.

Ga., Leesburg.—R. R. Forrester will erect residence.

Ga., Macon.—J. T. Davidson will erect residence on Hines Terrace.

Ga., Savannah.—E. W. Young, Savannah Bank & Trust Bldg., prepared plans for residence on 37th St.; 8 rooms; ordinary construction; green slate roof; hot-air heat; cost \$6000; owner's name withheld.

Ky., Louisville.—William Sales will erect 2 frame dwellings at 3213 and 3225 Virginia Ave.; cost \$3000.

La., New Orleans.—Joseph Rittenberg will erect store and residence. (See Stores.)

La., New Orleans.—Mrs. L. G. LeBeuf will erect 2-story residence; cost \$2500.

La., New Orleans.—W. R. Gilbert will erect 1-story residence; cost \$3500.

La., New Orleans.—Arthur L. Long will erect 2-story residence; cost \$4500.

La., New Orleans.—E. J. Garcia will erect 2-story residence; cost \$4000.

La., New Orleans.—Henry Singer will erect 2 double 1-story residences; cost \$3000.

La., New Orleans.—John Nolle will erect 2 double cottages; cost \$3000.

La., Shreveport.—E. H. Randolph will rebuild residence at 837 Jordan St., noted damaged by fire at loss of \$20,000.

Md., Baltimore.—Geo. R. Callis, Jr., 55 Knickerbocker Bldg., Baltimore, is preparing plans for dwelling; cost about \$25,000.

Md., Baltimore.—Garrison Realty Co. has plans by J. Zimmerman for 8 dwellings on Turner Rd. near Hampden Ave.; 2 stories; 12x28 ft.; brick; slate roof; range and furnace heat; cost \$4000.

Md., Baltimore.—J. W. Styne, Liberty Heights and Clarendon Aves., is reported to

erect dwelling on Maine Ave., West Forest Park; cost about \$4000.

Md., Baltimore.—Wm. E. Jordan, Garrison and Clifton Aves., will erect dwelling at Garrison and Alto Aves.; 30x48 ft.; 2½ stories; frame; slate roof; hot-water heat; cost \$5000; construction by owner.

Md., Baltimore.—James A. Bealmeir & Son Co., 1108 Fidelity Bldg., will erect 10 2-story porch-front dwellings on Falls Rd. and 5 dwellings on 31st St. near Remington Ave.

Md., Baltimore.—Frank Novak Realty Co., 744 Kenwood Ave., will erect 9 dwellings; 4 at 2223-9 E. Monument St., 15x45 ft.; 2 stories; 5 at 617-25 E. Madison St., 12x32 ft., 2 stories; all brick; tin roof; furnace heat; cost about \$13,500; Callis & Callis, Archt., 2055 Kennedy Ave., Baltimore.

Md., Baltimore.—J. O. Langrall has private plans to erect dwelling on Garrison Ave. near Carlisle Ave.; 29x48 ft.; 3 stories; frame; slate roof; hot-water heat; gas and electric lights; cost \$10,000; bids due Feb. 10; contractors estimating: E. G. Turner, 15 E. Fayette St.; Gladfelter & Chambers, 2074 Woodberry Ave.; C. W. Littleton & Son, 4313 Liberty Heights Ave.; Cowan Construction Co., 106 W. Madison St., all of Baltimore.

Md., Chevy Chase.—B. E. Hinton is having plans prepared by A. B. Mullett & Co., 721 Union Trust Bldg., Washington, D. C., for dwelling at Ingormor St., Reno Rd. and 39th St.; 40x30 ft.; 2½ stories; stone foundation; frame structure; stucco finish; slate roof; hot-water heat; electric light; cost about \$7500; bidders are: Jno. Simpson, Chevy Chase; R. P. Whitty & Co., 412 Union Trust Bldg., Washington; Arthur L. Smith, 1111 Woodward Bldg., Washington; A. C. Warthen, Kensington, Md.; J. C. Marsh, 24 Southern Bldg., Washington; H. B. Davis, 813 14th St., Washington; bids due Feb. 20; heating and plumbing reserved.

Md., Frederick.—Milton E. Akers, R. F. D. No. 5, has plans by John F. Thompson, Frederick, for residence at Fulmers Station; 30x31 ft.; mill construction; slate roof; cost of heating plant, \$200; total cost without mechanical equipment, \$3000; construction by owner. (Lately noted.)

Mo., Kansas City.—J. S. Lillis, 1026 Forest Ave., is reported to erect residence at Oak, 45th and 44th Sts.

Mo., Kansas City.—Ralph P. Swofford & Co. plan to expend \$65,000 to erect dwellings in Coleman Highlands to cost \$6000 to \$10,000 each, \$25,000 to erect dwellings in Eastwood Hills to cost \$3000 to \$7000 each and erect number of 4-room cottages in southeastern section.

Mo., Kansas City.—Walter G. Bassinger, 7 E. 38th St., will erect residence at 17 E. 52d St.

Mo., Kansas City.—Wells Bros. Realty Co. will erect 7 residences on Wabash and Prospect Aves.; 5 and 7 rooms.

Mo., Kansas City.—William Matthews will erect residence at 227 W. 62d St.

Mo., Kansas City.—A. J. King Realty Co., 12 E. 9th St., will erect 50 dwellings on 12th, White, Peery and Topping Sts.; 2 stories, 1½ and 1 story; various classes of construction; shingle, wood, composition and asbestos roofs; hot-air and hot-water heat; electric lights; cost \$2500 to \$3000 each; plans and construction by owner. (Lately noted.)

Mo., Kansas City.—J. C. Nichols will erect 10 residences in Country Club Dist.; mill construction; shingle roofs; hot-water heat; will begin construction March 1; cost \$4000 to \$10,000 each. Address J. C. Taylor, 911 Commerce Bldg. (Lately noted.)

Mo., Kansas City.—Thos. S. Ridge, 333 Ridge Bldg., will erect residence on Santa Fe Rd.

Mo., St. Louis.—L. H. Zimmerman will erect 2-story dwelling at 4063 Magnolia Pl.; cost \$4000; construction by owner.

Mo., St. Louis.—Fred Brunner will erect 2-story dwelling at 5728 S. Compton St.; cost \$4000; construction by owner.

Mo., St. Louis.—John W. Hoerr will erect 2-story dwelling at 4010 Magnolia St.; cost \$4000.

N. C., Greensboro.—W. L. Carter, 516 S. Mendenhall St., will erect residence.

N. C., Raleigh.—James A. Sanders will erect store and rooming-house. (See Stores.)

N. C., Tulsa.—C. L. Waite is erecting \$8000 residence on S. Denver St.

N. C., Shreveport.—E. H. Randolph will rebuild residence at 837 Jordan St., noted damaged by fire at loss of \$20,000.

Md., Baltimore.—Geo. R. Callis, Jr., 55 Knickerbocker Bldg., Baltimore, is preparing plans for dwelling; cost about \$25,000.

Md., Baltimore.—Garrison Realty Co. has plans by J. Zimmerman for 8 dwellings on Turner Rd. near Hampden Ave.; 2 stories; 12x28 ft.; brick; slate roof; range and furnace heat; cost \$4000.

Md., Baltimore.—J. W. Styne, Liberty Heights and Clarendon Aves., is reported to

erect dwelling on Maine Ave., West Forest Park; cost about \$4000.

Md., Baltimore.—Wm. E. Jordan, Garrison and Clifton Aves., will erect dwelling at Garrison and Alto Aves.; 30x48 ft.; 2½ stories; frame; slate roof; hot-water heat; electric light; cost \$5000; construction by owner.

Tenn., Knoxville.—A. J. Buenzli will erect dwelling on Cumberland Ave.; cost \$5000.

Tenn., Nashville.—P. J. Kane will erect bungalow.

Tex., Bonham.—Frank Blair will erect brick or concrete residence to replace burned structure.

Tenn., Dallas.—Mrs. Suman T. Carter will erect 2-story 10-room brick-veneer residence at 1722 Crockett St.; cost \$3500.

Tenn., Denton.—James Simmons will erect residence; Dennis Walsh, Austin, is reported preparing plans.

Tenn., El Paso.—Phoenix-El Paso Building Co. will erect brick bungalow in East El Paso; cost \$4500.

Tenn., Fredericksburg.—F. J. Maier will erect dwelling to replace structure lately noted damaged by fire.

Tenn., Gonzales.—W. H. Kokernot will erect residence.

Tenn., Houston.—J. A. Holland will erect 8-room residence at Colquitt and Mt. Vernon Sts.; cost \$3000.

Tenn., Houston.—J. A. Holland will erect residence at Colquitt and Mt. Vernon Sts.; cost \$3000.

Tenn., Waco.—Dr. A. J. Barton will erect residence to replace burned structure; cost \$3250.

Va., Alexandria.—Dr. A. Luria Ideal Hospital Appliance Co. is reported to erect 47 dwellings. (See Miscellaneous Factories.)

Va., Norfolk.—W. D. Spratley will erect 2-story residence at 38th St. and Omobundro Ave.; cost \$3500.

Va., Richmond.—C. T. Dawkins will erect 2-story frame residence on Powell Pl.; cost \$3000.

Va., Richmond.—Davis & Archer, 2515 Hanover Ave., will erect 3 dwellings. (See Apartment-houses.)

Va., Richmond.—James Fox & Sons will erect 2-story frame dwelling on 26th St.; cost \$3000.

Va., Richmond.—R. H. Singrey will erect 2-story frame dwellings on Bacon Rd.; cost \$3000.

Va., Richmond.—W. A. Stansbury will erect 2-story detached brick dwelling on Temple St.; cost \$295.

Va., Richmond.—Lester Hoy will erect dwelling on S. Church St.

Va., Roanoke.—Fidelity Realty Corp. will erect 2-story frame dwellings; cost \$3000.

W. Va., Wheeling.—Geo. Petticord will erect residence in Birch-Lynn.

W. Va., Wheeling.—John W. Betz will erect residence at 25 15th St.; cost \$10,000.

## GOVERNMENT AND STATE

N. C., Wilmington.—Treasury Dept., U. S. Government, Oscar Wenderoth, Supervising Archt., Washington, D. C., rejected bids on marine hospital previously noted to have bids opened Jan. 24.

S. C., Clover—Postoffice.—J. Meek Smith plans to erect building for postoffice.

Tex., Ennis—Postoffice.—Treasury Dept., Oscar Wenderoth, Supervising Archt., Washington, D. C., opened bids to erect postoffice; Reveron Construction Co., Drawer No. 114, Uniontown, Ala., is lowest bidder at \$4,906.13; steel and reinforced concrete; 2 stories and basement; 4000 sq. ft. ground area; semi-fireproof; composition roof. (Lately noted.)

## HOSPITALS, SANATORIUMS, ETC.

Fla., Live Oak.—Dr. West is reported to erect sanitarium. (See Dwellings.)

Md., Baltimore.—City, Jas. H. Preston, Mayor, will expend \$10,000 to improve Rayview Hospital.

Md., Rockville.—Montgomery County Tuberculosis Comm., Richard T. White, Dr. Clarence H. Mannar and others, plans to erect proposed sanatorium for tubercular patients.

Tenn., Nashville.—Board of Hospital Commrs. will expend \$6000 to repair city hospital; fireproof; tin roof; cost \$6000.

## HOTELS

Ala., Anniston.—Wall Amusement Co. will remodel building for hotel at Oxford Lake Park; 45 rooms; bids opened Feb. 15; construction begins March 1; cost \$50,000; plans by W. C. Freeman, Secy-Treas. of company, and he may be addressed. (Lately noted.)

Fla., Frostproof.—Polk County School Board accepted plans by Willis R. Biggers, Tampa, Fla., for school; 10 rooms, auditorium, etc.; private gas lighting and heating plant, water plant, sewer connections, etc.; gymnasium; manual-training and domestic-science equipment; brick; tile roof; bids opened in 15 to 20 days.

Fla., Jacksonville.—Special School Tax Dist. No. 1 votes March 16 on \$1,000,000 bonds for schools; F. A. Hathaway, Supt. of Public Instruction. (Lately noted.)

Fla., Richland.—School Trustees accepted plans by Willis R. Biggers, Tampa, Fla., for school.

Fla., St. Petersburg.—St. Petersburg School Dist., L. D. Childs, Secy. of Board of Trustees, is considering election in March on \$70,000 bonds to erect high school.

Fla., Winter Haven.—City has plans by W. L. Redditt, Tampa, for school.

Fla., Wimauma.—School Trustees selected plans by Willis R. Biggers, Tampa, Fla., for school.

Ga., Albany.—City will vote on \$80,000 bonds to include \$40,000 to erect high school; H. A. Tarver, Mayor. (See City and County.)

Ga., Cedartown.—City will vote on \$50,000 bonds to erect high school, enlarge East Cedartown school and erect colored school; J. K. Davis, W. W. Mundy and others, Com.

Ga., Conyers.—City votes Feb. 25 on \$30,000 bonds for schools; K. Galley, Mayor. (Lately noted.)

Ga., Dublin.—City will vote on \$75,000 bonds to erect schools, etc. (See Road and Street Work.)

Ga., Ellaville.—City votes March 4 on \$10,000 bonds to erect school. Address The Mayor.

Ky., Farmington.—School Trustees plan to erect school to replace structure lately noted damaged by fire.

Ky., Hazel Green.—Christian Women's College will erect dormitory to replace structure lately noted burned; loss \$6000.

La., Forest.—W. A. Ross, Pres., West Carroll Parish School Board, Pioneer, La., receives bids until Feb. 21 to erect 2-story brick school; plans and specifications at office of School Board as above, and A. J. Armstrong, Archt., 102 Majestic Bldg., Shreveport, La.; 80 ft. 6 in. by 60 ft.; 2 stories; 9 rooms; ordinary construction; composition roofing; cost \$15,000 without mechanical equipment.

Md., Smithsburg.—School Board is reported considering erection of \$30,000 high school.

S. C., Columbia.—Gov. Richard I. Manning signed bill authorizing city to vote on \$250,000 bonds to erect high school and make other school improvements. Address The Mayor. (Lately noted.)

Tenn., Camden.—High School Building Comm. will let contract about Mch. 15 (extended date) to erect school building; 57.6x77 ft.; 2 stories; ordinary brick construction; composition roof; low-pressure steam heat; electric wiring; cost \$20,000; L. M. Weathers Co., Archt., Memphis, Tenn.; address Joe F. Odle, Mayor. (Lately noted.)

Tenn., Russellville.—School Trustees plan to erect school to cost about \$7500.

Tenn., Knoxville.—Knox County Grammar School Board has plans by Chas. L. Barber, Knoxville, for \$5000 school at Smithwood. (Lately noted.)

Tenn., Knoxville.—Board of Education is considering erection of additions to Maynard and Heiskell schools and additional colored high school.

Tex., Cleburne.—City vote March 6 on \$130,000 bonds for schools; Chas. Wilhite, City Secy. (Lately noted.)

Tex., Denton.—City voted \$75,000 bonds to erect 2 schools and improve others. Address Mayor Foreman. (See Water-works.)

Tex., El Paso.—School Board will request City Council for bond issues of \$200,000 and \$60,000 for initial sum for completion of high school and addition to Alta Vista school, respectively; will also have plans prepared by Trost & Trost, El Paso, for 6-room addition to Beall school in East El Paso to cost \$12,000.

Tex., Galveston.—School Trustees adopted plans by A. J. Bellis, Galveston, to remodel and enlarge Ball High School, including erection of 12 additional rooms (6 on each wing), remodeling south elevation, installing low-pressure steam-heating plant, domestic-science, manual-training and laboratory equipment, cement floors and smooth brick walls in basement, etc.; cost \$55,000.

Tex., LaPryor.—City is considering election on \$4000 bonds to enlarge school. Address The Mayor.

Va., Norfolk.—School Board plans to erect Boys' High School in western section of city to accommodate 1000 pupils; fireproof; cost \$180,000; appropriation not made; Richard A. Dible, Div. Supt.

W. Va., Huntington.—Board of Education of Huntington Independent School Dist. opened bids to erect high school according to plans by Verus T. Ritter, Huntington; Henry Persun, Huntington, is lowest bidder for construction at \$246,000, and Rockaway Plumbing Co. is lowest bidder at \$20,906 for plumbing and \$39,990 for heating and ventilating; structure to be fireproof; steel girders and trusses encased in concrete; granite base; brick and terra-cotta trim; 3 stories above ground floor; site 245x140 ft.; monumental staircases and granite steps; auditorium to seat 1400; steam and air mechanical system; manual training, domestic

science and gymnasium equipment; showers. (Previously noted.)

### STORES

Ala., Mobile.—McDonald Grocery Co. will erect building at 54-56 Commerce St.

Ark., Little Rock.—E. E. Moss, 917 Southern Trust Bldg., has plans by Chas. L. Thompson, Little Rock, for store building at 312-14 Louisiana St.; 2 stories; 50x140 ft.; ordinary construction; composition roof; hand-power freight elevator; opens bids about Mar. 1; cost \$5000. (Lately noted.)

Ark., McGehee.—McGehee estate will erect 2 additional business buildings.

Ark., Van Buren.—Geo. R. Wood will erect 2 business buildings; 23x85 ft. each.

D. C., Washington.—Fries, Beall & Sharp Co. is having plans prepared for warehouse and store. (See Warehouses.)

D. C., Washington.—H. Abramson has plans by Appleton P. Clark, Jr., 816 14th St. N. W., Washington, for store building at 7th and L Sts. N. W.; 32x90 ft., with wing 22x100 ft.; ordinary construction; slag roof; vapor heat; cost \$25,000; construction begins Mch. 1. (Lately noted.)

Fla., Dunedin.—A. E. Batchelder will erect 2 stores.

Fla., Gulfport.—Mr. Wendell, Archt., is preparing plans for brick business block; 60x10 ft.; 3 storerooms, each with 20 ft. front; two 6-room apartments and lodgeroom.

Fla., Miami.—John Scott will erect store and apartment-house; 2 stories; concrete; 21x52 ft.; 5-room apartment on second floor; cost \$6000; August Geiger, Archt., Miami.

Fla., Okeechobee.—Mrs. C. Leon Faber, Fort Pierce, Fla., will erect business block on S. Park St.

Ga., Atlanta.—E. W. Gillespie will expend \$3000 for additions and repairs to building at 365 S. Pryor St.; day labor.

Ga., Glennville.—M. Sussman will erect two-story brick building; cost \$4000.

Ky., Maysville.—Knights of St. John will erect store and lodge building. (See Association and Fraternal.)

La., Forest.—A. J. Armstrong, Archt., Shreveport, La., is not preparing plans for business building as lately reported.

La., New Orleans.—Joseph Rittenberg will erect 1-story brick store and residence at 164 S. Rampart St.; cost \$5000.

La., New Orleans.—D. Siera has plans by S. Labouisse, New Orleans, for 4-story concrete business building.

Md., Cumberland.—Holzshu Co. contemplates erection of store and office building on Liberty St.

Md., Cumberland.—John M. Frantz is reported to erect building at Bedford and Carter Sts.; 4 stories; brick; completion by Oct. 1; lower floor for stores; upper floors for apartments; cost \$25,000.

Md., Frostburg.—Mrs. E. A. Gross, Cumberland, Md., is reported to erect building to replace lately-burned structure.

N. C., Greensboro.—Mrs. J. C. Hobson is reported to erect building on N. Dairy St.

N. C., Greensboro.—Miss Jennie Oppelman will expend \$5000 to repair 3-story brick building on S. Elm St.

N. C., Raleigh.—James A. Sanders will erect 1-story store and rooming-house or Cutler St.; cost \$3000.

Okla., Norman.—Norman Lodge No. 33, A. F. and A. M., will erect business and lodge building; cost about \$10,000.

Okla., Okeene.—E. C. Miles will erect business building.

Okla., Okeene.—Geo. Dushabek will erect concrete block business building.

Okla., Sapulpa.—Frank Smith will erect store and office building; 3 stories.

Okla., Sapulpa.—E. R. Rambo, Albuquerque, N. M., is reported to erect business building.

Okla., Sapulpa.—Michael Daskas plans to erect 2-story business building.

S. C., Rock Hill.—A. C. Izard will erect building at Main and Hampton Sts.; 2 stories; repressed brick; plate-glass fronts; 26.5x140 ft.; 5 stores on first floor, 10 offices on second floor.

Tenn., Knoxville.—F. E. McArthur is reported to remodel building at 604 Gay St.; cost \$10,000.

Tenn., Clarksville.—H. T. Grizzard is arranging to erect store; 2 stories; brick. (Previously noted.)

Tenn., Knoxville.—L. D. Tyson will remodel store building at Asylum and Broad Sts.; A. B. Baumann, Archt., Knoxville.

Tex., Brownwood.—B. S. Boysen has not let contract to erect store building as lately noted; date of letting contract undecided; plans by Henry Mount, Brownwood, call for 1-story brick and rock building; 50x80 ft.; pitch and gravel roof; cement sidewalks; cost \$5000.

Tex., Byers.—Geo. C. Parker is reported to erect brick store building.

Tex., Dallas.—W. S. Richardson will erect brick store building at 210 Jefferson St.; cost \$4750.

Tex., Dallas.—A. Guidera is reported to erect 3-story business building on Jackson St.

Tex., Dallas.—Pickney & Campbell will erect store and apartment-house at 204-6-8 E. Jefferson St.; brick; cost \$20,000.

Tex., Smithville.—Schumacher Grocery, Houston and Lagrange, Tex., will erect business building.

Tex., Waco.—Torbett & Germond will erect 1-story brick business building; 50x100 ft.; cost \$15,000.

Va., Richmond.—Moses and Isaac Thalheimer indefinitely postponed erection of department store building; Chas. K. Bryant, Archt., 500-1-2 Lyric Bldg., Richmond. (Previously noted.)

Fla., Dunedin.—A. E. Batchelder will erect 2 stores.

Va., Roanoke.—L. H. Vaughan and others will repair building at 212 S. Jefferson St.; cost \$3000.

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Va., Roanoke.—C. H. Berryman, representing J. B. Haggin estate, is reported to expend \$15,000 to remodel Lyons Bldg. at Main and Limestone Sts. for theater to be

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## MANUFACTURERS RECORD.

## CITY AND COUNTY

Fla., Tampa—Stable, Kitchen, etc.—Board of Public Works let contract to David Shaw, Tampa, at \$2078 and \$749, respectively, to erect city stables and kitchen for City Stockade. (Lately noted.)

## COURTHOUSES

Fla., West Palm Beach.—Palm Beach County Comms. let contract at \$12,000 to E. P. Maule, West Palm Beach, to erect courthouse; bids for furniture, fixtures and vault linings rejected; Talley & Summers, Archts., St. James Bldg., Jacksonville. (Lately noted.)

Ga., Lincoln.—Lincoln county is reported to have let contract to erect courthouse; colonial style; brick and cement; 2 stories; tower; 60x30 ft.; voted \$30,000 bonds; G. Lloyd Preacher, Archt., Augusta. (Lately noted.)

## DWELLINGS

D. C., Washington.—B. H. Gruver, 709 Union Trust Bldg., let following subcontracts for erection of 10 dwellings at Illinois Ave. and Grant Circle N. W.: Carpenter, Thos. A. Jamieson, 36 Rhode Island Ave. N. W.; brick work, J. F. Bayne & Bro.; plumbing, E. J. McGolrick, 1535 9th St. N. W.; painting, A. L. Halsip, 2703 N. Capitol St.; heating, Wm. Wood, 227 New York Ave. N. W.; concrete, Chas. Williams; mill work, Barber & Ross, 614 11th St. N. W.; lumber, Ragan & Taylor, 1230 7th St. S. W., all of Washington; plans by L. T. Williams, Washington, call for structure 20x32 ft.; brick; tin roof; hot-water heating plant to cost \$1800; electric and gas lights; total cost, \$25,000. (Lately noted.)

Fla., Jacksonville.—E. T. Dawkins, Jacksonville, has contract to erect residence; cost \$3000.

Fla., Jacksonville.—J. E. Langlois let contract to Brown Realty Co., Jacksonville, to erect residence and garage in Springfield.

Fla., Lakeland.—B. K. Bullard, Lake Wales, Fla., let contract to Logan & Townsend, Lakeland, to erect residence; brick; cost \$10,000.

Fla., Live Oak.—Dr. West let contract to P. C. Walker, Live Oak, to erect residence; 35x45 ft.; waterproof cement blocks; 2 stories; reported to erect sanitarium later.

Ga., Atlanta.—F. A. Bishop let contract to Sels Construction Co., 671 Edgewood Ave., to erect dwelling; 2 stories; brick veneer; cost \$4500.

Ga., Athens.—J. S. King let contract to erect residence; 8 rooms.

Ga., Macon.—Willingham Loan & Trust Co. let contract to Shaw Bros., Macon, to erect 2 residences on Orange St.; 2 stories; brick veneer.

Md., Baltimore.—P. J. King has plans by Fredk. E. Beall, 306 St. Paul St., Baltimore, and let contract to C. A. Wine to erect four dwellings on Matthews St. between 30th and 31st Sts.; 14x44 ft., 2 stories; brick; tin roof; hot-air heat; cost \$4800.

Md., Glyndon.—C. H. Porter has plans by Wm. F. Stone, Jr., Knickerbocker Bldg., Baltimore, and let contract to Sylvester Marshall, Owings Mills, Md., to erect dwelling; 28x31 ft.; 2 stories; frame; slate roof; hot-water heat; electric light; cost about \$4700. (Lately noted.)

Mo., St. Louis.—B. I. Graham let contract to J. H. Williamson, St. Louis, to erect 7-room residence at 5810 DeGerville Ave.; construction under supervision of John S. Blake & Bro. Realty Co.

Mo., St. Louis.—Chas Lehmut let contract to C. Lammers, St. Louis, to erect 2-story dwelling at 1018 Bittner St.; cost \$2000.

N. C., Greensboro.—J. L. Griffin let contract to J. B. Truitt, Greensboro, to erect residence on Isabell St.; 2 stories; 10 rooms; mill construction; shingle cedar roofing; steam-heating plant to cost \$368.50; lighting fixtures and wiring to cost \$250; cement walks to cost \$56; cost without mechanical equipment, \$3600. (Lately noted under Washington, D. C.)

Oklahoma, Oklahoma City.—Wm. Nance let contract to Stewart & Wilderson, Oklahoma City, to erect residence on W. 21st St.; shingle roof; Wm. Joyne, Archt., 503 American Bank Bldg., Oklahoma City; also let contracts to Andy Binns for plumbing, and Wm. Lambert for brick work. (Lately noted.)

S. C., Rock Hill.—Dr. Louis Friedman let contract to A. F. Hester, Rock Hill, to erect residence; steam heat; cost \$3000; construction begun.

## HOSPITALS, SANITARIUMS, ETC.

S. C., Rock Hill.—Sidney Adams let contract to C. A. Dobbins, Rock Hill, to erect residence on Oakland Ave.; cost \$4000; J. S. Starr, Archt., Rock Hill.

Tenn., Knoxville.—C. H. Paull let contract to Worsham Bros., Knoxville, to erect residence; L. C. Waters, Archt., Knoxville.

Tenn., Knoxville.—J. J. Toms let contract to L. A. Galyon & Co., Knoxville, to erect 2 dwellings at 1643-45 White Ave.; cost \$4000; R. F. Graf & Sons, Archts., Knoxville.

Tex., Beaumont.—A. Heffler let contract to C. I. Colleps to erect residence; cost about \$3000.

Tex., Childress.—W. A. Pancake let contract to A. H. Manzer to erect residence; 6 rooms; brick; cost \$3500; Parker & Rittenberry, Archts., 1309½ Main St., Dallas, Tex. (Lately noted.)

Tex., San Antonio.—C. F. Cotton let contract to W. J. Wise, San Antonio, to erect bungalow on Bandera Ave.; Harvey L. Page Co., Archt., San Antonio.

Tex., San Antonio.—Mrs. Nat Goldsmith let contract to J. T. Harvey, San Antonio, to erect residence at 215 W. Laurel St.; 2 stories; frame; ordinary construction; tin roof; hot-air heating plant to cost \$375; cost about \$6000 without mechanical equipment; Atlee B. Ayres, Archt., San Antonio. (Nat M. Wash lately noted to erect residence.)

W. Va., Wheeling.—Carl Bendle, Gen. Supt. of West Virginia Traction & Electric Co., let contract to Geo. Petticord, Wheeling, to erect 2-story residence.

## GOVERNMENT AND STATE

D. C., Washington—Memorial.—Boyle-Robertson Construction Co., Washington, Gen. Contr. to erect Memorial to Women of Civil War, let following subcontracts: Pile driving, Raymond Concrete Pile Co., Baltimore; exterior and interior marble, Vermont Marble Co., Proctor, Vt.; plumbing, Jas. Nolan & Son; sheet metal, Daly & Hopper; fireproof partitions, Hammitt Fireproofing Co.; plastering, John J. Early; electrical wiring and fixtures, H. P. Foley Co.; glass, E. J. Murphy Co.; hardware, Jas. B. Lamble Co., all of Washington; ornamental bronze, Gorham Co.; mill work, Jas. Elgar; granite, H. L. Brown & Co.; heating, Baker, Smith & Co.; elevators, Otis Elevator Co.; models and carving, Donnelly & Ricci; waterproofing, Imperious Products Co., all of New York; Spanish tile roof, Ludowici-Celadon Co., Chicago; ornamental iron, Estey Bros. Co., Brooklyn, N. Y.; vacuum cleaners, Richmond Radiator Co., Richmond, Va.; plans by Trowbridge & Livingston, New York, call for structure 135x72 ft.; 3 stories, basement and cellar; cost about \$360,000. (American Bridge Co., New York, previously noted having contract for structural steel.)

Okla., El Reno—Postoffice.—Treasury Dept., Oscar Wenderoth, Supvr. Archt., Washington, D. C., let contract Geo. Stiles Construction Co., 1036 Rookery Bldg., Chicago, to erect lately-noted postoffice; 50x80 ft.; fireproof; 6-ply tar and gravel roof; steam-heating plant to cost \$4000; cost \$75,000 without mechanical equipment; contractor may be addressed. (See Machinery Wanted.)

Okla., El Reno—Postoffice.—Treasury Dept., Oscar Wenderoth, Supervising Archt., Washington, D. C., let contract to Jno. E. Sjostrom Co., 1719 10th St., Philadelphia, Pa., to install furniture in postoffice; cost \$195. (Previously noted.)

Okla., Muskogee—Postoffice.—Treasury Dept., Oscar Wenderoth, Supervising Archt., Washington, D. C., let contract to C. O. Eure, Hattiesburg, Miss., let contract to C. O. Eure, Hattiesburg, to erect school; ordinary construction; composition roof; cost \$7000. (Lately noted.)

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## HOTELS

Ga., Savannah.—Hicks Hotel Corp. let following subcontracts through H. W. Witcover, Archt., Savannah, in connection with erection of hotel: Electrical system, W. C. Bryant & Co., Savannah; plumbing, heating and vacuum cleaning equipment, Peerless Plumbing & Heating Co., Savannah; elevators and trunk-lifting equipment, Savannah branch of Otis Elevator Co.; artesian well, Hughes Specialty Well Drilling Co., Charleston, S. C.; plans call for fireproof structure, 60x30 ft.; 9 stories and cellar; terra-cotta and marble front; steel frame. (Wise Granite & Construction Co., Richmond, Va., lately noted to have general contract at \$105,000.)

La., Jennings.—Houssiere-Latreille Oil Co. let contract to McHugh & Montagne, Jennings, to convert Ardennes Theater into hotel to be leased to John McHugh; 30 rooms; completion by Apr. 1.

Mo., Kansas City.—Bunting-Stone Hardware Co., Kansas City, is reported to have contract at about \$35,000 for lighting fixtures for Muehlbach Hotel, for which Westlake Construction Co., St. Louis, has general contract; plans by Holabird & Roche, Monroe Bldg., Chicago, call for structure 138x158 ft.; 11 stories and basement; 420 rooms; fireproof; steel frame; brick and stone; cost \$1,200,000 without mechanical equipment. (Other contracts previously noted.)

Okla., Ponca City.—O. F. Keck let contract to Carl Randall, Secy. of Blackwell Brick Co., Blackwell, Okla., for brick for rebuilding Arcade Hotel; will build 4 walls and make other repairs.

## MISCELLANEOUS

Fla., Seabreeze—Clubhouse.—Daytona Athletic Assn., Daytona, Fla., has plans by and let contract to D. F. Fuquay, Daytona Beach, Fla., to erect clubhouse 30x38 ft. and grandstand 37x56 ft.; ordinary construction; chipped-slate roofing; cost \$10,000.

Tenn., Nashville—Restaurant.—Administrators of Noel estate let contract to erect restaurant building. (See Stores.)

## SCHOOLS

Fla., Pinellas Park.—Pinellas Park School Dist. Trustees have plans by Herman E. Wendell, Gulfport, Fla., and let contract to William & De Haas, Pinellas Park, to erect school; 65x68 ft.; 13-in. brick walls; asbestos shingle roof; electric lights from city plant; furniture and blackboards supplied by County Board of Education. (Lately noted.)

Md., Tacoma Park.—Bliss Electrical School has plans by F. H. Jackson, Washington, D. C., and let contract to Boyle-Robertson Construction Co., 1516 H St., Washington, to erect dormitory; 4 stories, 101x40 ft.; fireproof; slate or tile; low-pressure steam heat; electric light; cost \$40,000; following subcontract let: Hammitt Fireproofing Co., Wilkins Bldg., fireproofing; Eislinger Bros., 2101 Georgia Ave., millwork; Appel & Merriman, plumbing; Thos. Sheahan, 611 C St. N. W., painting; all of Washington, D. C.

Miss., McLaurin.—McLaurin School Dist., H. Gillis, Clerk of Supervisors, Hattiesburg, Miss., let contract to C. O. Eure, Hattiesburg, to erect school; ordinary construction; composition roof; cost \$7000. (Lately noted.)

Miss., Waynesboro.—City let contract to I. H. Vick to erect \$12,000 brick school.

Mo., Kansas City.—Board of Education let contract at \$85,055 to Bert Elmer, Kansas City, to erect Kensington school at Poplar Ave. and 17th St.; at \$15,000 to Central Saash & Door Co., Kansas City, for laboratory fixtures for Southeast High School; at \$7,950 to J. R. Van Sant Construction Co., Kansas City, to erect addition to William Cullen Bryant School; at \$5871 to R. W. Hodge Electric Co., Kansas City, for lights for Central High School, and at \$84,500 to H. Eilenberger Construction Co., Chicago, to erect Mark Twain School; Chas. A. Smith, Archt., Kansas City. (Lately noted.)

Okla., Braman.—School Trustees are erecting building; 2 stories; brick; cost \$40,000; brick furnished by Blackwell (Okla.) Brick Co.

Tenn., Loudon.—J. F. Jones let contract to Callaway Lumber & Milling Co., Lenoir City, Tenn., to erect store and office building; 2 stories; brick; 25x70 ft.; A. B. Baumann, Archt., Knoxville.

Tenn., Memphis.—Shop of Culture has plans by G. M. Shaw & Co., 1503 Tennessee Trust Bldg., Memphis, and let contract to Carroll-Blake Construction Co., Birmingham, Ala., to erect store building at Main and Monroe Sts.; 4 stories and basement; 27x75 ft.; fireproof; reinforced concrete; gravel roof;

also have plans prepared by Trost & Trost, El Paso, for 6-room addition to Beall school in East El Paso to cost \$12,000. (Lately noted.)

Va., Pulaski.—Pulaski School Board let contract at \$37,000 to Barbour & Co., Roanoke, Va., to erect school; 2 stories; brick; cost \$8500; C. H. Leinbach, Archt., 1105 Southwestern Life Bldg., Dallas.

Va., Clinchport.—School Trustees let contract to Kingsolver & Huddle, Bristol, Va., to erect high school; brick; steam heat.

Va., Lexington.—M. B. Stoddard, Staunton, Va., general contractor to erect Doremus Memorial Gymnasium at Washington and Lee University, let following subcontracts: Excavation, concrete foundations, cement floors, Howard Donald, Lexington; heating and plumbing, F. A. Dunn, Lexington; painting, Geo. W. Bare, Lexington; wiring and fixtures, Clarence W. Whitmore, Lynchburg, Va.; brick work, Bright & Rohr, Staunton, Va.; roofing, sheet metal and skylights, Flavin & Watson Co., Staunton; mill work, Jno. H. Blackburn & Son, Staunton; tile floors, etc., reserved by owners; carpentry and plastering by general contractor; plans by Flournoy & Flournoy, 701 Wilkins Bldg., Washington, D. C., call for structure 220x60 ft.; mill construction; asbestos shingle roof; heat from central plant; electric lights; total cost, \$90,000 to \$100,000. (Previously noted.)

W. Va., Wheeling.—Board of Education let contract at \$11,000 to Schoefield-Cowl Co., Wheeling, for heating system for high school, for which J. W. Belts & Sons, Wheeling, have general contract at \$87,400, and Wm. Hare's Sons Co., Wheeling, contract for plumbing; Theo. Wagner, Construction Supt.; F. F. Farris, Archt., Wheeling. (Previously noted.)

## STORES

Ala., Uniontown.—Eldridge Mercantile Co. has plans by and let contract to Reveron Construction Co., Drawer No. 114, Uniontown, to remodel building at Broadway and Front St.; fireproof; composition roof; cost \$15,000 without mechanical equipment. Address contractor. (See Machinery Wanted.)

Ark., Little Rock.—Little Rock Ry. & Electric Co. is reported to have let contract to Thalman & Reed, Little Rock, to alter building at 417 Main St.; cost \$3500.

Ark., Leslie.—Mrs. Overstreet let contract to T. A. Pyron, Marshall, Ark., for brick work, W. A. Shannon, Leslie, for wood work, and Frank Smith, Leslie, for concrete work on business building to replace burned structure.

Fla., Jacksonville.—C. Buckman let contract to erect 3 stores on Riverside Ave.

Ga., Atlanta.—Connally Realty Co. let contract to erect store and office building. (See Bank and Office.)

Miss., Shubuta.—G. S. Weems let contract to Standard Construction Co., Meridian, Miss., to erect 3 stores to replace burned structures; glass fronts.

Mo., St. Louis.—Lindberg Dry Goods Co., Wm. Goyer, V.-P. and Gen. Mgr., is reported to have let contract to remodel building at Washington Ave. and 8th St.

N. C., Lumberton.—W. W. Carlyle has plans by and let contract to S. A. Branch, Lumberton, to rebuild structure reported damaged by fire; tin roof; electric lights.

N. C., Raleigh.—Col. A. B. Andrews let contract to J. D. Riddle, Raleigh, to alter business building; Frank K. Thompson, Archt., Raleigh.

Okla., Drumright.—Mrs. Boten of Drumright Hardware Store let contract to erect business building; 26x50 ft.

Okla., Oklahoma City.—Stewart & Wilderson have contract to remodel first floor of building to be occupied by Remington Typewriter Co.; cost \$5000; Maurice Joyne, Archt., 503 American Bank Bldg., Oklahoma City.

Tenn., Loudon.—J. F. Jones let contract to Callaway Lumber & Milling Co., Lenoir City, Tenn., to erect store and office building; 2 stories; brick; 25x70 ft.; A. B. Baumann, Archt., Knoxville.

Tenn., Memphis.—Shop of Culture has plans by G. M. Shaw & Co., 1503 Tennessee Trust Bldg., Memphis, and let contract to Carroll-Blake Construction Co., Birmingham, Ala., to erect store building at Main and Monroe Sts.; 4 stories and basement; 27x75 ft.; fireproof; reinforced concrete; gravel roof;

steam heat; prism vault lights; 2 electric elevators; cost \$45,000 without mechanical equipment; also let heating and plumbing contracts to Fischer Heating Co. and Pritchard Bros. Co., respectively, both of Memphis; construction begins Apr. 1. (Lately noted.)

Tenn., Nashville.—Administrators of Noel estate let contracts to erect 2 brick business buildings at 424-26 Church St.; cost \$8000 to \$10,000; one to be occupied by Harrison-Hussey Co. as restaurant.

Tex., Amarillo.—Gus Rummell let contract to J. D. Tunnell, Amarillo, to erect business building; 40x60 ft.; reinforced concrete foundation; steel beams; gravel roofing; hot-air heat; cost \$3000; C. Risser, Archt.

Tex., Beaumont.—Herman Weber, Beaumont, has contract to erect 1-story brick business building on Frank Sievert estate, Crockett St. between Park and Orleans Sts.; plate-glass front; cost \$8000; Bablin & Beck, Archts., Beaumont. (Lately noted.)

Tex., Houston.—R. E. Burt let contract to F. J. Maret, Houston, to remodel building at McGowen and Brazos Sts.; 2 stories; brick; cost \$17,000.

Tex., Wichita Falls.—Alexander Fells let contract to Carr & Blakemore, Wichita Falls, to alter building on Indiana Ave. between 7th and 8th Sts.; 25x150 ft.; mill construction; tin roof; cost \$3500; subcontracts include electric wiring, brick work, plastering, etc., and brick work contract was let to Ralph Hibbs, Wichita Falls; Evan Jones, Jr., Archt., Wichita Falls. (Lately noted.)

Va., Norfolk.—Dr. A. R. Chalmers and H. C. Hoggard, Jr., let contract to erect store and apartment-house. (See Apartment-houses.)

Va., Norfolk.—Shelby D. Scott let contract to Nash-Jones Co. to erect store building on

Granby St. for occupancy by Atlantic Tire & Rubber Co.; 2 stories; reinforced concrete; brick; terra-cotta trim; hollow metal interior trim; fireproof; Neff & Thompson, Archts., Norfolk. (Lately noted.)

#### THEATERS

Ala., Uniontown.—Uniontown Theaterium has plans by and let contract to Reveron Construction Co., Drawer No. 114, Uniontown, to remodel building at Water and Front Sts. for moving-picture theater; mill construction; composition roof. Address contractor.

Mo., St. Louis.—McKinley Amusement Co. let contract to Chas. N. Lund, St. Louis, to alter 3-story building for moving-picture theater at 1020-22 Franklin St.; cost \$10,500.

Mo., St. Louis.—D. T. Williams let contract to J. Chapman & Co., St. Louis, to erect 1-story odeon at 3520-22 N. Newstead St.; cost \$5000.

#### WAREHOUSES

D. C., Washington.—Fries, Beall & Sharp Co., 522 10th St., is having plans prepared by C. A. Didden & Son, 421 Corcoran Bldg., Washington, for store and warehouse at 734-6 10th St.; 7 stories and basement; 40x100 ft.; concrete throughout; slate roof, flat; electric lights; 2 electric elevators. (Lately noted.)

Md., Baltimore.—Elizabeth M. Cronin let contract to Jas. F. Harley, 1728 E. Federal St., Baltimore, to erect warehouse at 707-9 Hillen St.; brick; slag roof; cost \$16,000; H. J. Tinley, Archt., 4727 Liberty Heights Ave., Baltimore.

Md., Baltimore.—H. E. Kriel let contract to Henry Pierson & Sons, 1000 Olive St., Baltimore, to erect wagon and storage building at 15 W. Williamson St.; 35x48 ft.; brick; slag roof; cost \$5000.

## RAILROAD CONSTRUCTION

#### RAILWAYS

Ala., Cordova.—Diamond Coal Co., J. S. Shannon, Prest., will build railroad to mines.

Ala., Gadsden.—Lou Hart says that preliminary survey of the proposed Gadsden-Center Ry. will possibly be started this month.

Ark., Harrison.—W. C. Linthicum of Fort Smith, Ark., has made a proposition to the Harrison Commercial Club for the building of a railroad from Harrison to Bergman, 10 mi., which would make connection between the Missouri & North Arkansas R. R. and the White River division of the Missouri Pacific Ry. There is also talk of building southward from Harrison as an extension of this line, but in the opposite direction.

Fla., Jacksonville.—Board of Port Commissioners have decided to make survey for its proposed railroad 1½ mi. long from the municipal terminal to three connecting railroads. M. Corsi is Prest. and F. W. Bruce Ch. Engr., 315 Reality Bldg.

Fla., Miami.—Florida East Coast Ry.'s proposed yard at Buena Vista, near Miami, is held up indefinitely awaiting material improvement in the financial situation. C. S. Coe, St. Augustine, Fla., is Engr. Maint. of Way.

Fla., Ocala.—Ocala Northern R. R., 60 mi. long to Palatka, Fla., has been sold to Assets Realization Co. of New York, C. A. Marshall, V.-P., which, it is understood, contemplates improvements. The Ocklawaha extension, it is stated, was purchased by the Ocala Manufacturing Co.

Ga., Rochelle.—Ocilla Southern R. R., J. A. J. Henderson of Ocilla, Prest., has awarded contract and construction will begin immediately on the proposed extension from Rochelle to Pope City, 8 mi. A further extension to Perry, Ga., about 32 mi., is also to be made.

Ky., Dawson.—Illinois Central R. R. is reported surveying for second track from a point 3 mi. out of Dawson to Princeton, Ky. A. S. Baldwin, Chicago, Ill., is Ch. Engr.

Ky., Straight Creek.—Continental Coal Co. of Straight Creek will build spur railroad to mine at cost of about \$12,000. F. B. Martin is Prest.; W. L. Moss, V.-P. and Mgr.; S. O. LeSueur, Secy. and Treas., and L. E. Yoder, Ch. Engr.

La., Rayville.—At a recent meeting of the Rayville Progressive League stock subscriptions were made for an interurban railway south from Rayville for 22 mi., says a letter. Two surveying parties are in the field and right of way is being obtained. Theo. J. Coenen, Prest., is preparing data and getting estimates on materials. J. W. Hahn is Secy.

La., Covington.—Illinois Central R. R. Co. denies press report that it made surveys for extension from Covington to Gulfport, Miss., 60 mi., and says it has no such project under consideration.

Md., Baltimore.—Morgan Millwork Co., 113 W. North Ave., has acquired adjacent property to install railroad facilities.

Mo., Joplin.—J. A. Goodrich has submitted to the South Joplin Club a plan to build a railroad from Joplin to Miami, Okla., via Spring City and Commerce.

Mo., Webb City.—Southwest Missouri R. R. Co., it is reported, will build extension from Galena to Commerce. A. H. Rogers, Joplin, Mo., is Prest.

Mo., Williamsville.—J. T. Long, Prest. Ozark Valley Ry. Co., Commerce Trust Bldg., Kansas City, Mo., says it is intended to extend the line (formerly the Williamsville, Greenville & St. Louis Ry.) 10 to 20 mi. within a year or so.

N. C., Shelby.—W. T. Clement of Greensboro, N. C., and J. H. Hawley of Rockingham, N. C., have made contract, it is announced, to build the projected railroad from Shelby to Casar, N. C., 21 mi., construction to begin within two months and to be finished in 18 months, but it is expected to be completed this year. Mr. Clement is an officer of the Broad River Lumber Co.

Okla., Jennings.—Atchison, Topeka & Santa Fe Ry. is reported surveying for a line from Maramec to Jennings, about 10 mi. R. A. Rutledge, Topeka, Kans., is chief engineer.

Tenn., Oneida.—Extension of the Tennessee Ry. 14 mi. to mines is authorized. Bird M. Robinson, 115 Broadway, New York, is receiver.

Tex., Anahuac.—A movement has been started to build a railroad from Anahuac to Stowell, about 18 mi. Address A. D. Lipscomb, Atty.

Tex., Beeville.—Galveston, Harrisburg & San Antonio R. R. Co. says there is no foundation in fact for the recent press report that it would build an extension from Beeville to Fowlerton.

Tex., Graham.—Chicago, Rock Island & Gulf R. R. is reported contemplating construction of an extension from Graham to Albany, Tex., about 50 mi., to develop coal fields. A. B. Warner is V.-P., Gen. Supt. and Ch. Engr. at Fort Worth, Tex.

Tex., Newcastle.—Missouri, Kansas & Texas Ry. Co., according to local report, is considering plans to build an extension from Newcastle to Cisco, Tex., about 50 mi. L. F. Lonnblad, Dallas, Tex., is Engr. Maint. of Way.

W. Va., Charleston.—Kanawha Valley Tra-

dition Co. of the Ohio Valley Electric Ry. System, W. W. Magoon, Mgr., Huntington, W. Va., is reported to have bought the Interurban railway of the Charleston Traction Co. from Charleston to St. Albans, 12 mi., and may make improvements.

W. Va., Ridgeley.—Ridgeley & Millerdale Electric Ry. Co. is to resume construction this spring. John L. Miller is Prest.; H. U. F. Flursbutz, V.-P.; John Schwarzenbach, Secy.; C. G. Miller, Treas., and James T. Vandergrift, Acting Atty.

#### STREET RAILWAYS

Ala., Birmingham.—Birmingham Ry., Light & Power Co. will, it is stated, spend about \$150,000 for construction and improvements this year. A. H. Ford is president and general manager.

Ga., Waycross.—Waycross Street & Subur-

ban Ry. Co. contemplates building an extension. L. J. Cooper is Prest.

Mo., Kansas City.—Metropolitan Street Railway Co. is to build double track on 6th St. from Swope Parkway to Elmwood Ave. under an ordinance just passed. John M. Egan is Prest.

Mo., St. Louis.—United Railways Co. contemplates extension of its 4th-St. car line through the Lafayette Park district. R. Mc Culloch is Prest.

N. C., Raleigh.—It is announced that Daniel Allen and H. H. Carr will begin construction of the proposed street railway extension to Boylan Heights not later than April 1.

Okla., Tulsa.—A. J. Biddison bought at receiver's sale the property of the Oklahoma Union Traction Co. and extensive improvements are contemplated. Line is 5½ mi. long. J. F. Crow is also mentioned as interested. P. E. Magee is receiver.

## MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

#### "WANTS"

**Bags (Paper).**—J. C. Brown Lime Co., Newbern, N. C.—Heavy paper bags, capacity 50 to 100 lbs.

**Bank Fixtures.**—Farmers' Bank & Trust Co., Caleden, W. Va.—Prices on bank fixtures.

**Boiler.**—G. Harry Peacock, Box 95, Selma, Ala.—Second-hand 150 H. P. tubular stationary boiler, complete with all fittings. Give full description, including make, steam pressure, capacity, condition and location.

**Bolts and Nuts.**—Navy Dept., Bureau Supplies and Accounts, Saml. McGowan, Paymaster-Gen., Washington, D. C.—Bids until Feb. 23 for delivering steel bolts and nuts at Navy-yard, Portsmouth, N. H. Apply for proposals to navy pay office, Portsmouth, or to Bureau.

**Boxes (Tin, Polish), etc.**—Mrs. Anne J. Barbre, Clinton, N. C.—Data and prices on 3-oz. tin polish bottles; also on machine for filling silver-polish bottles, so as to leave impress on top for sponge; wants name of polish stamped on top.

**Brass and Copper Trimmings.**—See Trunk Trimmings, Atlantic Coffin & Casket Co.

**Brick.**—See Sand, etc.

**Bridge Construction.**—Office of Quartermaster, Fort Monroe, Va.—Bids until March 3 to furnish material and construct concrete footbridge across moat, including changing location of electrical conduit; information on application.

**Bridge Construction.**—See Road and Bridge Construction.

**Bridge Estimates.**—Putnam County Commrs., J. H. Milligan, Chrnn., Palatka, Fla.—Estimates for rebuilding (of concrete) of bridge, 400 ft. long, across St. Johns River.

**Building Materials.**—Geo. W. Stiles Construction Co., 1036 Rookery Bldg., Chicago.—Bids on plastering, roofing and sheet metal, heating and plumbing, electric wiring and mill work for \$75,000 postoffice building at El Reno, Okla.

**Building Materials, etc.**—Wm. Newton Diehl, 46 Chamberlain Bldg., Norfolk, Va.—Catalogues, samples, prices, etc., on building materials and appliances of interest to architects.

**Canning Machinery.**—Texas Land & Development Co., Plainview, Tex.—Data and prices on machinery for canning asparagus, berries, tomatoes, etc.

**Cement.**—Columbus Blerce, Box 1043, Memphis, Tenn.—About 300 barrels cement; wants addresses of manufacturers, especially those located in the South.

**Chair Machinery, etc.**—See Woodworking Machinery, W. C. Boker.

**Cleaning (Rice) Machinery.**—A. L. Byrd, Bonifay Light & Water Co., Bonifay, Fla.—Data and prices on small rice-cleaning plant; power (either steam or electric) already available.

**Cotton Machinery.**—W. C. Dempsey, 219 Albert St., Belleville, Ont., Canada.—Estimates on equipment for manufacturing cotton batting and cotton sheet wadding.

**Crane (Revolving).**—Navy Dept., Bureau Yards and Docks, Wm. M. Smith, Acting Chief, Washington, D. C.—Open bids Feb. 27 (date postponed from Feb. 13) on 150-ton floating revolving crane for Navy-yard, Norfolk, Va.; specification No. 2092.

**Curbing.**—City of Dublin, Va., J. A. Gaines, Clerk.—Opens bids Feb. 20 to construct curbing, estimated cost \$2000, in connection with macadam paving now under construction.

**Drainage.**—Supervisors Little River Drainage Dist., John H. Himmelberger, Prest., Cape Girardeau, Mo.—Bids opened Feb. 8 for 6,000 cu. yds. excavation, included in contracts 11 and 17, bottom widths ranging from 8 to 123 ft.; specifications and ranges on application to Wm. A. O'Brien, Chief Engr.

**Drainage Canal, etc.**—Comms. West Baton Rouge Parish, Bayou Nolan Drainage Dist., W. V. Easton, Secy., Westover, La.—Bids until Feb. 23 to construct drainage canal and widen and deepen Bayou Allegator; estimated yardage, 133,000; contractor to furnish tools, dredges, etc.; bids on work conditional on sale of bonds.

**Drainage System.**—Comms. Matagorda County Drainage Dist. No. 5, Geo. C. Corporan, Chrnn., Bay City, Tex.—Bids until March 6 to construct drainage system; 25,246 cu. yds. excavation; plans and specifications on file with E. N. Gustafson, Engr., Bay City.

**Dredging.**—U. S. Engr. Office, H. W. Stickle, Maj., Engrs., Wilmington, N. C.—Bids until March 9 for dredging in Neuse River, waterway from Pamlico Sound to Beaufort Inlet, and Beaufort Harbor, N. C. Information on application.

**Dry Goods, etc.**—Denniston & Co., La Paz, Bolivia.—Samples and prices of dry goods, shoes, hardware, etc., view to representation.

**Electrical Equipment.**—First National Bank, Dunn, N. C.—Prices on electrical outfit for operating Otis elevator; capacity 1300 in. addition to car weight; 150 ft. per minute speed; constant pressure at motor of alternating current of 220 volts, 3-cycle, 60-phase; equipment also to supply electric lights for new 4-story bank building having about 20 offices.

**Electro-Cide Machine.**—American Electro-Cide Co., Jas. M. Chadsey, Mgr., Woodward Bldg., Washington, D. C.—Bids on electro-cide machine (for making chlorine insecticide) and applying to soil or plant; will supply information; blueprints ready in few days.

**Electric-Light Equipment.**—Standard Engineering Co., 609 Republic Bldg., Kansas City, Mo.—Prices on crude oil engines, generators, poles, watt-hour meters, etc.

**Electric Signs.**—Reveron Construction Co., Drawer 114, Uniontown, Ala.—Prices on electric signs for \$15,000 store building.

**Electric Wiring.**—See Building Materials.

**Elevator.**—Baltimore (Md.) Board of Awards.—Bids until Feb. 17 to remodel elevator in City Hall; drawings and specifications.

cations on file with C. E. Stubbs, Building Inspector.

**Engines (Crude Oil).**—See Electric-light Equipment, Standard Engineering Co.

**Engines (Gas Producer).**—See Gas Producers, Jas. P. Williams.

**Extracts (Fruit and Perfume).**—See Manufacturers, Manuel Barguna.

**Engines.**—Geo. E. Lum Machine & Supply Co., 18, 20th St., Birmingham, Ala.—Second-hand engines (Atlas preferred); 8-in. to 14-in. bore; preferably center crank.

**Engines (Oil, Diesel).**—C. N. Whiting, Shepherdstown, W. Va.—Addresses of manufacturers of Diesel oil engines.

**Excavation, etc.**—Comms., Cameron County Irrigation Dist. No. 1, Hordon Hill, Secy., Harlingen, Tex.—Bids until Feb. 13 to excavate silt, dirt and other obstructions to ready flow of water through mains and irrigation ditches now constructed on estimated length of 17 mi.; estimated yardage, 190,000 cu. yds.; also for other improvements as shown by map, profiles, estimates and specifications prepared by engineer of district, and which may be had on application to irrigation directors; A. S. Lowe, Prest. of Dist.

**Gas Producers.**—Jas. P. Williams, clay-working engineer, 2803 N. Kings Highway, St. Louis, Mo.—Catalogues and blueprints from manufacturers of gas producers and of producer gas engines.

**Gas (Bottled or Compressed).**—S. M. McMurray, 50 Arcade, Nashville, Tenn.—Data and prices on bottled or compressed gas for ordinary gas cooking range.

**Glassware (Druggists and Chemists).**—See Manufacturers, Manuel Barguna.

**Glue-Jointing Machines.**—Williams Mill Mfg. Co., Ronda, N. C.—Description and prices on new or used glue-jointing machines.

**Graphophone Parts.**—John Armistead, Shreveport, La.—Names and addresses of manufacturers of rubber disks for graphophones; also manufacturers of recording instruments for graphophones.

**Handle Machinery.**—See Woodworking Machinery, W. C. Bocker.

**Hardware (Iron).**—See Manufacturers, Manuel Barguna.

**Hardware.**—Denniston & Co., La Paz, Bolivia.—Interested in hardware, view to representation. (See Dry Goods, etc.)

**Heating and Plumbing.**—See Building Materials.

**Heating Plants.**—W. H. Sykes, Smithfield, Va.—Addresses of manufacturers of heating plants suitable for churches.

**Hose.**—City of Houma, La.—Bids received by Mayor and Board of Aldermen until March 2 to furnish 1200 ft. standard fire hose.n.

**Hot-water Heaters.**—Edw. A. Nolan, Miami, Fla.—Prices on instantaneous hot-water heaters.

**Jail Equipment.**—Joe E. Webb, County Judge, Madisonville, Tex.—Prices on steel cages and appurtenances for county jail.

**Knitting Machinery.**—John R. Lackey, Walnut Cove, N. C.—Prices on equipment for hosiery mill.

**Lathe.**—W. S. King, Lonoke, Ark.—Second-hand lathe with about 15-in. swing and 6-ft. bed, complete, with chuck, etc.; first-class condition.

**Lathes (Armature).**—J. F. Golding, Chief Engr., University of Virginia Power Plant, Charlottesville, Va.—Prices on armature lathes.

**Lumber.**—See Sand, etc.

**Lumber.**—Chatham County Comms., Savannah, Ga.—Bids until Feb. 25 to furnish cypress and yellow pine lumber; specifications on file with County Comms.

**Manufactures.**—Manuel Barguna, Avino, II, pral, Barcelona, Spain.—Correspondence with manufacturers of following with view to agencies on commission: Chromo-lithographs for calendars and advertising purposes; various objects and materials for pushing business and advertising; shoes (good line); remedy similar to aspirin Bayer (aspirin); peroxide of hydrogen; American confections; prepared cereals; celluloid articles; artificial silk for making cloths and for embroidery; pencils (graphite and in colors); iron hardware (good quality) for furniture; boxed writing paper (for ladies especially); fruit extracts and perfume essences; glassware for druggists and chemists; novelties for dressmakers and milliners.

**Merchandise.**—See Dry Goods, etc., Denniston & Co.

**Meters.**—Baltimore (Md.) Board of Awards.—Bids at office City Register, City

Hall, until Feb. 17 to furnish 2 venturi meters, 24 in. and 20 in., respectively, together with appurtenances and recording devices, for Upper Service Pumping Station, Water Dept., contract No. 38; charge of \$5 for each set of specifications; Roht. L. Clemmitt, Acting Water Engr.; Ezra B. Whitman, Consultant.

**Naval Stores.**—Consulate of Denmark, New Orleans, La.—Interested in prices (for importer in Denmark) on naval stores for export.

**Paving Plans.**—See Water-works, Sewer and Paving Plans, South Boston, Va.

**Paving.**—Committee on Public Works of Board of Bond Trustees, S. C. Harrison, Jr., Chmn., Jacksonville, Fla.—Bids until March 8 to furnish material and lay about 388 sq. yds. penetration pavement on concrete base with cement curb and gutter on Boulevard in front of lots 5 and 6, Block 5, Springfield, between 2d and 3d Sts.; plan and specifications on file with City Recorder and with Committee on Public Works; proposal forms, specifications and information obtainable from Chief Clerk, Engineering Dept., Main and Orange Sts.

**Paving.**—E. B. Cline, City Auditor, Tulsa, Okla.—Bids until Feb. 15 to construct concrete sidewalks; plans, specifications, etc., on file with City Auditor.

**Paving.**—City of Clarksdale, Miss. (Address City Clerk).—Opens bids March 3 to construct 3 mi. gravel road; W. S. Bobo, Engr., Clarksdale.

**Paving.**—J. A. Harper, City Secy., Corsicana, Tex.—Bids until Feb. 23 to pave portions of W. 2d, E. 5th and W. 7th Aves.; separate bids on bitulithic pavement on 5-in. gravel concrete foundation; brick pavement on concrete foundation; asphalt macadam; asphaltic concrete; rock asphalt; concrete curbs; concrete gutters 18 in. wide; concrete gutters 24 in. wide; combination concrete curbs and gutters, gutters 18 in. wide and face of curb 6 in.; combination concrete curbs and gutters, gutters 24 in. in. wide and face of curbs 8 in.; specifications on file with City Secy.

**Paving.**—F. J. Von Zuben, City Engr., Fort Worth, Tex.—Bids until Feb. 16 to improve 5th Ave. from Robert Ave. to Jessamine St.; width of street, 30 ft.; contain about 4167 sq. yds.; bitulithic, rock asphalt or vitrified brick pavement; proposal forms and specifications on file with City Engr.; J. H. Grant, Commr. of Streets and Public Property.

**Peanut Salting Machinery.**—See Potato Chip Machinery, etc., E. L. Bunnell.

**Pipe (Sewer).**—Raymond R. Eagle, Chief Engr., Newbern, N. C.—Quotations on following, f. o. b. cars Newbern: 1875 ft. 6-in., 920 ft. 10-in. and 2060 ft. 12-in. No. 2 sewer pipe; also, within next 60 days, will have requirements for about 20 carloads of 12 to 30-in. sewer pipe.

**Piping.**—Bonifay Light & Water Co., A. L. Byrd, Engr., Bonifay, Fla.—Bids until March 1 on distributing system, including 800 ft. 6-in. cast-iron pipe and about 6000 ft. 2-in. wrought-iron pipe. (Lately noted.)

**Polish (Silver) Machinery, etc.**—See Boxes (Tin, Polish), etc., Mrs. Anne J. Barbery.

**Potato Chip Machinery, etc.**—E. L. Bunnell, 244 N. Church St., Spartanburg, S. C.—Addresses of manufacturers of or dealers in potato chip machinery and salted peanut machinery.

**Printing and Advertising Materials.**—See Manufacturers, Manuel Barguna.

**Rails.**—Diamond Coal Co., J. S. Shannon, Prest., 842 Brown-Marx Bldg., Birmingham, Ala.—60-lb. rails; 12 and 16-lb. T rails.

**Reclamation (Canal Excavation) Work.**—Dept. of Interior, U. S. Reclamation Service, A. P. Davis, Director and Chief Engr., Washington, D. C.—Bids at office U. S. Reclamation Service, Grand Junction, Colo., until March 10 for about 64,000 yds. canal excavation, vicinity of Grand Junction and Fruita, Colo. For details address U. S. Reclamation Service, Grand Junction, or Washington, D. C.

**Road and Bridge Construction.**—Office State Highway Com., G. P. Coleman, State Highway Com., Richmond, Va.—Bids at office Bedford County Clerk, Bedford City, Va., until Feb. 16 to grade and otherwise improve 5 1/4 mi. of road between Forest and Bellvue; specifications furnished on application to State Highway Com.; bids also received at same time to construct steel and concrete bridge 209 ft. long over Elk Creek, Bedford county; further information on application to State Highway Com.; plans and specifications for both road and bridge on file with County Clerk at Bedford City and with State Highway Com. at Richmond.

**Road Construction.**—Putnam County Comms., J. H. Milligan, Chmn., Palatka, Fla.—Estimates on building 12 mi. road; brick or other hard material.

**Road Construction.**—Cochrane County, Dr. S. F. Carr, Chancery Clerk, Clarksdale, Miss.—Opens bids March 3 to construct 3 1/4 mi. 16-ft.-wide gravel road; J. R. Shidler, Engr., Clarksdale.

**Rolls (Crushing).**—English Mica Co., Williamsport, Pa. (mills at Spruce Pine, N. C.)—Will want two sets crushing rolls; prefer Sturtevant or Buchanan rolls, second-hand, if good condition.

**Roller (Steam).**—R. M. Hudson, Atlanta, Ga.—To rent 5-ton steam tandem roller, first-class condition; Florida work; also make best purchase price. Answer by telegram, stating life, condition and price.

**Roofing.**—See Building Materials.

**Rubber Disks.**—See Graphophone Parts.

**Sand, etc.**—Baltimore (Md.) Board of Awards.—Bids until Feb. 17 to furnish for use of Electrical Com.: Sand, gravel, brick, lumber and hauling bulk material; for specifications and further information address Raleigh C. Thomas, Chief Engr., City Hall.

**Sewer Construction.**—City of Mobile, Ala.—Open bids Feb. 23 to construct Southern drain; about 1865 ft. 10x4 1/2 and 12x4 1/2 reinforced concrete culvert; Wright Smith, City Engr.

**Sewer Construction.**—Baltimore (Md.) Board of Awards.—Bids at office City Register, City Hall, until Feb. 24 to construct storm-water contract No. 26, covering section No. 2 of Ogiers Run Interceptor, and sanitary contract No. 148, covering section No. 3, East low level interceptor; storm-water contract calls for 11,000 cu. yds. of excavation, 2900 cu. yds. of concrete, 145 cu. yds. of brick masonry, 120,000 lbs. of reinforcing steel, 1900 lin. ft. concrete sheet piling, 24,500 lin. ft. spruce or pine piling; sanitary contract 148 requires 9000 cu. yds. earth excavation and refill and 2600 lin. ft. 36-in. sewer; specifications and plans obtainable at office Harry W. Rodgers, Secy. Sewerage Com., 904 American Bldg.; \$5 charge for each set of specifications and plans; Chas. England, Chmn., Com.

**Sewer Construction.**—Comms. Dist. of Columbia, 509 District Bldg., Washington, D. C.—Bids until Feb. 15 to construct 3500 lin. ft. trunk sewers, 6-ft. 6-in. span to 7-ft. span; proposal forms, specifications and information obtainable from Chief Clerk Engineering Dept., 427 District Bldg.

**Sewer Construction Plans.**—See Water-works, Sewer and Paving Plans, South Boston, Va.

**Sewer and Water Construction Materials.**—City of Morehead, N. C., E. H. Gorham, Mayor.—Feb. 19, will buy sewer pipe, cement, manholes, flush tank, castings, etc., for about 23,000 ft. sewers, and cast-iron pipe, lead, jute, hydrants, valves and galvanized pipe for water extensions; for specifications, etc., apply J. B. McCrary Co., Engr., Atlanta, Ga. (Lately noted.)

**Shoes.**—See Dry Goods, etc., Denniston & Co.

**Shoes.**—See Manufacturers, Manuel Barguna.

**Steam Shovel.**—Southern Drainage & Construction Co., Kinston, N. C.—To rent steam shovel; standard make; not over 1-1/2 yd. capacity dipper; state fully condition of machine, present location and monthly rental.

**Telephone Equipment.**—Gates Telephone Co., B. L. Banks, Atty., care Smith & Banks, Gatesville, N. C.—Wires, telephones, switchboard, etc., for 150 to 200 mi. rural telephone line, and exchange equipment.

**Tile Conduit.**—Baltimore (Md.) Board of Awards.—Bids until Feb. 17 to furnish for use of Electrical Com. 1,400,000 duct ft. of vitrified tile conduit and 300,000 ft. special duct pipe, including bends; for specifications and further information apply Raleigh C. Thomas, Chief Engr., City Hall.

**Tile (Drain).**—Raymond R. Eagle, Chief Engr., Newbern, N. C.—Quotations on 3000 ft. 5-in. farm drain tile, f. o. b. cars Newbern.

**Tractors and Trailers (Gasoline).**—Carpenter, Taylor & Co., Rutherfordton, N. C.—New or second-hand gasoline tractor to pull two 2-ton trailers; also two 2-ton trailers for hauling logs and lumber.

**Trunk Trimings.**—Atlantic Coffin & Casket Co., Rose Hill, N. C.—Addresses of manufacturers of brass and copper trimmings for trunks, etc.

**Water Mains.**—City of Dublin, Va., J. A. Gaines, Clerk.—Opens bids Feb. 20 for water mains extension; estimated cost \$5000.

**Water-works, Sewer and Paving Plans.**—City of South Boston, Va., W. L. Penick, Mayor.—Plans and specifications for clear water, sewer improvements and street paving; view to bond issue.

**Water-works Construction.**—Magnolia Park (Houston), Tex.—Bids by W. H. Farrington, City Secy., at Postoffice, Houston, until Feb. 23 to furnish material and construct water-works system; plans and specifications with City Secy. and at office of Engrs., M. Griffin O'Neil & Sons, 1606 Praetorian Bldg., Dallas, Tex. (Previously noted.)

**Water-works Materials.**—City of Morehead, N. C.—Feb. 19, will buy cast-iron and galvanized pipe, lead, jute, hydrants, valves, etc., for water extensions. (See Sewer and Water Construction Materials. Lately Noted.)

**Well-drilling.**—Chas. Gilstrap, Ozark Oil & Gas Co., Ozark, Ark.—Bids for drilling 6 to 12 wells from 800 to 2500 ft.; contracts to be let to one contractor for 2 or 3 wells.

**Wood Turnings.**—Benj. Levi, maker of electrical and mechanical instruments, etc., 255 W. Broadway, New York.—Addresses of Southern specialists in small turned wood parts.

**Woodworking Machinery.**—F. B. Worden, 401 Claremont St., Syracuse, N. Y.—Second-hand Woodworking machinery.

**Woodworking Machinery.**—See Glue-jointing Machines.

**Woodworking Machinery.**—W. C. Bocker, Plant City, Fla.—Prices on machinery for manufacture of tool handles, chairs and furniture.

## Keeping in Touch With the Public.

J. G. Hollenbeck, general passenger agent, St. Louis, of the St. Louis, Iron Mountain & Southern Railway Co., is distributing every month an Agents' Bulletin as a medium of information between the traffic department of the railroad and those of its representatives who come in contact with the public, some 3000. It is also sent to the heads of all departments. In addition, it goes to some 7500 ticket agents of other lines, 2000 newspapers and magazines, the chief clerks of the principal hotels in the West and Southwest, a long list of traffic managers of large concerns, a number of public libraries, quite a long exchange list and a long list of business men whose names have been added to the list from time to time at the suggestion of various officials of the company.

## FINANCIAL NEWS

The MANUFACTURERS RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

### FINANCIAL CORPORATIONS

Ala., Atmore.—First National Bank of Atmore is chartered; capital \$25,000; surplus \$1250. Organizers and directors: J. P. McMurphy, Prest.; M. Benenson, V.-P.; W. C. Roberts, Cash.; C. C. Huxford, H. H. Patterson and Lonnie Greer. Business began Feb. 1.

Ark., Cotton Plant.—The First National Bank is approved; capital \$35,000. This succeeds the Planters' Bank of Cotton Plant.

Ark., Stuttgart.—Farmers and Merchants' Bank has begun business; capital \$55,000; W. F. Meacham, Pres.; J. P. Rich, V.-P.; A. W. Harper, Cash.; W. S. Gettle, Asst. Cash.

Fla., Kenansville.—First State Bank of Kenansville chartered; capital \$15,000; stockholders, G. E. Bothwell, S. H. Fertig, B. F. Roe, R. V. Phillips, A. L. Hunt, Paul E. Truedell and R. E. Franklin, all of Kenansville, Fla.; Randolph Young, J. T. Drawdy and L. B. Drawdy of Whittier, Fla., and M. M. Smith, Orlando, Fla., and W. J. Rice of Ravendon Springs, Ark. Business is to begin about April 1. (Previously mentioned.)

Fla., Monticello.—First National Bank is approved; capital \$30,000.

Fla., Wauchula.—Carlton National Bank, which succeeds Carlton & Carlton, bankers, is chartered; capital \$50,000; Albert Carlton, Prest.; C. J. Carlton, 1st V.-P. and Cash.;

J. W. Earnest, 2d V.-P.; C. S. Carlton and W. D. McLunis, Asst. Cashrs.

Fla., Zephyrhills.—American State Bank chartered; capital \$15,000; directors, J. M. Harvey, Prest.; E. W. Stapleton, 1st V.-P.; J. L. Geiger, 2d V.-P.; L. D. Stapleton, Cash., and S. G. Allen. Business is to begin about March 10.

Ga., Enigma.—People's Bank is organized with \$20,000 capital; Dr. A. H. Weathers, Prest.; J. M. McMillion and H. F. Stewart, V.-P.; T. E. Woodruff, Cash. Business is to begin at once.

Ga., Macon.—Mutual Building and Loan Assn. Incptd.; capital \$50,000; surplus \$500; directors, V. H. Moore, Prest.; L. B. Davis, V.-P.; R. H. Allerman, Secy.-Treas. Business will begin March 12.

Ga., Savannah.—Although the stockholders on Jan. 26 decided to change the name of the Savannah Trust Co. to the Chatham Bank & Trust Co., the necessary formalities have not been completed, and it will probably be four or five weeks before the change becomes effective. The Savannah Trust Co. and the Chatham Bank were consolidated on Sept. 14, 1914, and now occupy building erected by Chatham Bank. Leopold Adler, Prest.; Wm. W. Mackall, Chrmn. Executive Com.

Ky., Lyndon.—United States Mortgage Bond Co. has filed articles of incorporation; capital \$100,000; incorporators, Albert J. Heliker, Albert W. Tallman and D. T. Utterback.

La., Crowley.—First National Bank of Acadia Parish at Crowley is approved; capital \$50,000. Successes First National Bank of Crowley. W. L. Trimble, C. J. Freeland, F. J. Chappius, S. D. Wilder and S. Haydel, organizers.

Mo., Granger.—Regarding reported organization of the Farmers' Savings Bank, W. B. Evans, one of those interested, writes: "Did not organize."

Mo., Kansas City.—Swedish-American Savings & Loan Assn. Incptd.; capital \$500,000; incorporators, Alfred Holtman, Theodore Ellison and J. H. Olson.

Mo., Lebanon.—First National Bank chartered; capital \$30,000; O. L. Weissgerber, Prest.; E. W. Cook, Cash. This is a conversion of the Farmers and Merchants' Bank.

N. C., Greensboro.—Gate City Trust Co. is to be organized. J. I. Armfield of Thomasville is interested.

Okla., Henryetta.—The Citizens' Bank and the Guaranty State Bank have consolidated. J. E. Whitenton will be Prest.

Okla., Terlton.—First State Bank chartered; capital \$15,000; incorporators, C. J. Shepard, Pawnee; C. W. Hughes, Melton Thompson, Cushing; J. E. Florer, Terlton.

Okla., Oklahoma City.—Wheeler Audit Co. is chartered; capital \$2000; incorporators, C. F. Wheeler, Iver W. Lee and Henry F. Draper.

Okla., Villa.—First State Bank chartered; capital \$15,000; incorporators, Irving J. Wheatcroft, Leedy; J. E. Wheatcroft and James W. Porter, Villa.

S. C., Aynor.—Planters' Bank, capital \$10,000, has organized with the following officers: W. P. Lewis, Prest.; E. A. Gordon, V.-P., and Charles F. Powell, Cash.

S. C., Chester.—Citizens' National Bank of Chester, which succeeds the Citizens' Bank, is chartered; capital \$60,000, surplus \$6000; M. S. Lewis, Prest.; J. G. White, V.-P.; K. H. White, Cash. As soon as Comptroller authorizes, business will begin.

Tex., Dawson.—First National Bank chartered; capital \$25,000; E. W. Munsey, Prest.; J. R. Dunn, Cash. This is a conversion of the Dawson State Bank.

Tex., El Paso.—Rio Grande Valley Farmers' Loan Association is organized with \$25,000 capital. Among those interested are Felix Martinez, Robert Krakauer, W. L. Toohey, Z. T. White, James A. Dick, J. H. Hurd, C. M. Newman and John M. Wyatt.

Tex., Hawkins.—First National Bank of Hawkins is approved; capital \$30,000. This succeeds the First State Bank.

Tex., Irene.—First National Bank of Irene is approved; capital \$25,000. This succeeds the Bank of Irene. Directors, Y. H. Greer, J. A. Medrell, R. C. West and J. K. Parr.

Tex., Markham.—First State Bank chartered; capital \$15,000; incorporators, O. B. Kee, J. E. Moore, R. A. Huber and John Maney of Oklahoma City.

Tex., Palacios.—Palacios State Bank and the State Guaranty Bank & Trust Co. has, it is reported, decided to consolidate under the name of the former institution.

Tex., Walker.—State bank with \$10,000 capital is being organized by C. H. Umland and others.

Va., Lexington.—Rockbridge National Bank of Lexington chartered; capital \$150,000; has

begun business; conversion of the Bank of Rockbridge.

Va., Willis.—Blue Ridge Bank, Inc., has begun business; capital \$25,000; Dr. Chas. K. Burnett, Prest.; Wm. J. Phillips, V.-P.; S. C. Slusher, Cash.; directors, C. K. Burnett, W. J. Phillips, W. G. Donnelly, J. H. M. Terry, A. N. Hylton and S. W. Hylton.

W. Va., Clendenin.—Farmers' Bank & Trust Co. Incptd.; capital \$25,000; officers not yet elected. Business is to begin about Feb. 15. Address D. Stephenson.

### NEW SECURITIES

Ala., Athens.—\$28,000 bonds to pay floating indebtedness are voted. Address The Mayor.

Ark., Ashdown.—Bids will be received Feb. 25 by the Board of Commrs. of Water-Works Dist. No. 1 for \$45,000 and by Board of Commissioners of Sewer Dist. No. 1 for \$39,000 6 per cent. 10-25 year bonds. A. D. DuLane is Atty. for Boards.

Ark., Glenwood.—City has for sale water-works bonds. Address The Mayor.

Ark., Helena.—Bids will be opened March 3 for \$300,000 levee bonds Cotton Belt Levee Dist. No. 1. Address Board of Commrs.

Ark., Huttig.—Bids will soon be asked for \$12,000 5 per cent. school-building bonds Huttig Consolidated School Dist. Address W. H. Moore, Secy. of Board.

Fla., Arcadia.—\$15,000 Nocatee Special Tax School Dist. No. 6 and \$17,500 Sebring Tax School Dist. No. 37 (De Soto county) 6 per cent. \$500 bonds were purchased at par Feb. 1 by Hanchett Bond Co., Chicago.

Fla., Bradenton.—Election to vote on \$250,000 Sarasota-Venice, Manatee county, road bonds will be held Mch. 15. Geo. W. Blackburn is Chrmn. County Commrs. at Sarasota.

Fla., Clearwater.—Ordinances have been prepared providing for the issuing of \$15,000 street paving, \$18,000 sewerage, \$5000 water-works, \$5000 drainage, \$11,000 for redeeming outstanding indebtedness, \$3000 park improvement and \$15,000 water-front purchase and improvement 5 per cent. 30-year bonds voted last October. John R. Jeffords is Mayor.

Fla., Live Oak.—\$70,000 Suwannee county high-school bonds voted last April have been validated by the Supreme Court. Address County Commrs.

Fla., Jacksonville.—Election is to be held March 16 to vote on \$1,000,000 bonds Special School Tax Dist. No. 1. F. A. Hathaway is Supt. of Public Instruction.

Fla., Miami.—Election will be held in Dade county Mch. 16 to vote on \$100,000 road bonds. Address Frank A. Bryan, Chrmn., at Fort Lauderdale, Fla.

Fla., St. Petersburg.—Election will probably be held in March to vote on \$70,000 high-school building bonds. L. D. Childs is Secy. Board of Trustees St. Petersburg School Dist.

Ga., Albany.—Election is to be held to vote on \$80,000 municipal-improvement bonds. H. L. Tarver is Mayor.

Ga., Augusta.—On Mch. 2 city will sell

\$250,000 4 1/2 per cent. 30-year \$1000 flood-protection bonds, being balance of a \$750,000 issue; dated July 1, 1914; maturity July 1, 1944. Wm. Martin is Chrmn. Finance Com.

Ga., Cedartown.—City School Board will ask Mayor and City Council for authority to issue \$50,000 of bonds.

Ga., Conyers.—Election is to be held Feb. 25 to vote on \$30,000 6 per cent. school-building bonds. Chas. J. Galley is Mayor.

Ga., Dublin.—Election is to be called to vote on \$75,000 of bonds for cold-storage plant, improving streets, building garbage disposal plant, schoolhouses and other improvements. Address The Mayor.

Ga., Richland.—Election is to be held Mch. 24 to vote on \$20,000 sewer, water and light bonds. Address The Mayor.

Ga., Pearson.—\$10,000 6 per cent. school bonds were purchased by Robinson-Humphrey-Wardlaw Co., Atlanta, at par.

Ga., Savannah.—The \$200,000 of 4 1/2 per cent. 25-year auditorium bonds were sold at \$3274 premium as follows: Oglethorpe Savings & Trust Co., Savannah, 101.53; John L. Hamond & Co., Savannah, \$98,000 at 101.78.

Ga., Estherwood.—\$38,000 5 per cent. \$500 bonds Fifth Ward Drainage Dist. No. 1, Acadia parish, were voted Feb. 2, 1915; dated July 1, 1915, or before; maturity July 1, 1916; last bond July 1, 1947. Address Ellis I. Hoffpauir.

Ga., Grayson.—\$150,000 Carter county road bonds recently voted have been declared void.

Ky., Paducah.—Election is to be held Feb. 27 to vote on \$300,000 McCracken county road bonds. Address County Commrs.

Ky., Sebree.—All bids received Feb. 1 for \$14,000 4 1/2 per cent. 20-year water-works bonds were rejected and new bids will be opened Mch. 1. Interest 5 per cent.; denomination \$500. Vernon Sullinger is City Clerk.

Ky., Williamsburg.—Election is to be held in Whitley county Apr. 24 to vote on \$250,000 road bonds. Address County Commrs.

La., Alexandria.—\$100,000 5 per cent. 1-10 year highway bonds Road Dist. No. 2, Rapides parish, voted Jan. 19, will be offered for sale about Mch. 29. Address J. P. Turregano, Chrmn. Finance Com.

La., Baton Rouge.—\$180,000 5 per cent. bonds Road Dist. No. 2, Baton Rouge parish, have been purchased at \$182,250 by Dameron-White Co., Ltd., New Orleans.

La., New Roads.—Sale of \$5000 5 per cent. 10-year school bonds of Pointe Coupee parish offered Feb. 2 is deferred. A. McFarland is Secy. School Board.

La., Shreveport.—City has on hand \$79,000 4 1/2 per cent. bonds of public improvement issue of 1913, amounting to \$101,500, which will be offered for sale as soon as litigation is settled, the bond issue being now in the courts. R. H. Ward is Commr. Dept. of Accounts and Finance. Recent press reports stated bonds had been sold.

Md., Baltimore.—The \$8,500,000 of 4 and 4 1/2 per cent. city stock offered Feb. 4 was awarded a syndicate headed by the Mercantile Trust & Deposit Co., Baltimore, at an average price of 97.827. The \$4,500,000 of 4 1/2 per cent. stock will average about 103 and the \$4,000,000 4 per cent. stock about 93.50. Associated with the syndicate are Kountze Bros., the National City Bank of New York and N. H. Halsey & Co. of New York.

Miss., Greenville.—Local capitalists have purchased \$150,000 6 per cent. certificates of indebtedness; dated Feb. 1, 1915; payable Jan. 20, 1916. Address Board of Mississippi Levee Commrs.

Miss., Greenville.—\$457,500 6 per cent. Bogue Phili Drainage Dist. bonds have been sold as follows: Hibernia Bank & Trust Co., New Orleans, \$300,000; Bank of Leland, \$157,500.

Miss., Hazelhurst.—Election will be held Feb. 6 to vote on Copiah county road bonds. Address Board of Supervisors.

Miss., Hattiesburg.—\$10,000 5 per cent. 20-year \$1000 bonds, dated Oct. 1, 1914, McLaurin Consolidated School Dist., Forrest county, have been purchased by C. O. Eure of Hattiesburg, Miss. Herbert Gillis is Clerk of Supervisors.

Miss., Jackson.—Election is to be held Mch. 13 to vote on \$160,000 electric-light and power-plant construction bonds. City Council has also passed a resolution that city call election to vote on \$75,000 school bonds. Address The Mayor.

Miss., Meridian.—\$50,000 5 1/2 per cent. road bonds Dist. No. 1, Lauderdale county, were purchased at \$1041 premium by C. W. McNear & Co., Chicago.

Miss., Quitman.—\$15,000 Clarke county bonds for agricultural school at Harmony have been purchased by the Hanchett Bond Co., Chicago.

Miss., Starkville.—Bids will be received until Mch. 1 by Board of Supervisors, Okfuskeha County, J. C. McCleary, Prest., for \$120,000 5 or 5 1/2 per cent. \$500 First Supervs. Dist. road bonds; dated Feb. 1, 1915; maturing \$12,000 each year from 1926 to 1936, inclusive. M. A. Saunders is attorney for the board and E. O. McIlwain Chancery Clerk. *Further particulars will be found in the advertising columns.*

Miss., Tunica.—\$12,000 6 per cent. 20-year water-works bonds have been purchased at par by Cutter, May & Co., Chicago.

Miss., Tutwiler.—\$12,000 6 per cent. municipal water-works addition and sewer extension bonds have been purchased by Bolger, Mosser & Wilaman, Chicago. D. H. Jennings is Town Clerk.

Miss., Vicksburg.—\$140,000 of an issue of \$300,000 5 per cent. 5-40-year Warren county road bonds have been purchased by the Provident Savings Bank & Trust Co., Cincinnati, at par and \$525 premium.

Mo., Caruthersville.—Bids will be received until Feb. 22 for \$62,000 water-works and sewer bonds. Address The Mayor.

Mo., Chillicothe.—Election is to be held Feb. 15 to vote on \$135,000 5 per cent. 20-year water-works bonds. Stephen Hawkins is Mayor.

Mo., Marysville.—\$25,000 5 1/2 per cent. \$500 Lincoln township, Nodaway county, road bonds were purchased at \$69.25 premium by the Merchants' Loan & Trust Co., Chicago.

Mo., Montrose.—\$6000 5 per cent. 5-20-year electric-light bonds voted Aug., 1914, have been sold as follows: Commerce Trust Co., Kansas City, Mo., \$300; local investors, \$3000; denomination, 20, \$100; 8, \$500. W. J. Brownsberger is Mayor.

Mo., St. Louis.—Bids will be received until noon March 15 for \$2,750,000 4 1/2 per cent. 20-year St. Louis municipal bridge bonds; denomination \$1000; Henry W. Kiel, Mayor, and James Y. Player, Comptroller.

N. C., Asheville.—Bill is to be introduced in the Legislature asking authority to issue \$50,000 of bonds to pay off old Queens College property and also the rebuilding of the South School. Address School Commrs.

N. C., Greensboro.—Bids will be received until 2:30 P. M. Mch. 3 by T. J. Murphy, Mayor, for \$100,000 5 per cent. 30-year \$1000 bonds for streets and other improvements. *Further particulars will be found in the advertising columns.*

N. C., LaGrange.—\$50,000 water-works and electric-lighting plant bonds will probably soon be issued. Address The Mayor.

N. C., Madison.—According to G. W. Martin, Secy. and Treas., no bonds are to be issued. (Previously mentioned.)

N. C., Mocksville.—Davie county is reported to have sold at par and accrued interest \$35,000 road bonds to Sidney Spitzer & Co., Toledo, O.

N. C., Pittsboro.—Election is to be held Mch. 9 to vote on \$50,000 Centric township and \$20,000 Oakland township, Chatham county road bonds. Address County Commrs.

N. C., Raleigh.—City Commrs. are negotiating for the sale of \$100,000 6 per cent. 1-5 year bonds for payment of street debt. Address The Mayor.

N. C., Tarboro.—Bids will be received until noon March 1 by H. S. Bunn, Clerk Edgecombe county, for \$20,000 6 per cent. road and \$10,000 bridge 5-14 year bonds.

N. C., Wilkesboro.—Bill is to be introduced in the Legislature asking authority to hold an election in Wilkes county to vote on \$50,000 road bonds. Address County Commrs.

N. C., Winston-Salem.—Of the \$460,000 5 per cent. 30-year improvement bonds \$423,000 were sold to Baker, Watts & Co., Mercantile Trust & Deposit Co., Townsend Scott & Son and Nelson, Cook & Co. of Baltimore at a premium of \$730. The other \$32,000 were taken by the city Sinking Fund Com. (Noted Feb. 4.)

Okla., Drumright.—The bonds recently voted are \$20,000 for park and \$20,000 for sewers. Address The Mayor.

Okla., Okmulgee.—Election is to be held in Okmulgee county in the spring to vote on courthouse bonds. Address County Commrs.

Okla., Pond Creek.—\$7000 water and light bonds have been sold at par to Pierson Bros., Oklahoma City.

S. C., Columbia.—Election is to be held to vote on \$250,000 high-school building bonds. Address Board of Education.

Okla., Red Rock.—\$22,000 6 per cent. 5-25 year water-works bonds are voted. Address The Mayor.

Okla., Yale.—The \$25,000 water-extension and \$7000 electric-light bonds voted Dec. 30 are \$25-26 6 per cents; denomination \$1000. Address Board of Trustees, E. A. Pierson, Clerk.

S. C., Columbia.—Bill is to be introduced in the Legislature providing for an issue of not more than \$1,250,000 of Richland county road bonds. Address County Commrs.

S. C., Greenville.—A bill has been introduced in the Legislature providing for an issue of \$1,000,000 Greenville county road bonds. Address County Commrs.

S. C., Union.—Bill is to be introduced in the Legislature authorizing Union county to vote on \$200,000 road bonds. Address County Commrs.

Tenn., Alamo.—Crockett County Court has authorized bonds to take up floating debt.

Tenn., Camden.—Election will probably be held March 12 to vote on \$20,000 of 5 per cent. 20-year \$100 to \$500 high-school bonds, election held last March having been declared void. Joe F. Odle is Mayor.

Tenn., Chattanooga.—Bids will soon be asked for \$125,000 Wauhatchie pike, \$223,000 school and \$100,000 hospital bonds of Hamilton county voted last August. Address County Commrs.

Tenn., Chattanooga.—\$12,970 6 per cent. 14-year paving bonds were purchased Feb. 3

[For Additional Financial News, See Page 58.]

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JNO. B. RAMSAY, V.-P. and Chm. Bd. of Dir.  
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August 9th, 1913, Surplus and Profits, \$764,091.00

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SUMMERFIELD BALDWIN, Vice-Pres.

R. VINTON LANDSALE, Cashier.

C. G. MORGAN, Asst. Cashier.

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by First National Bank, Cleveland, O., at 207.86.

Tenn., Chattanooga.—City proposes to issue about \$165,000 of 4½ per cent. 30-year funding bonds; denomination \$100 or multiples thereof, no bond to exceed \$1000. T. C. Thompson is Mayor.

Tenn., Dayton.—\$25,000 5 per cent. 20-year \$1000 Rhea county road bonds voted last spring have been declared valid by the Supreme Court. Bids for same will be received until 3 P. M. March 1. Address W. P. Darwin, Chrmn. Board of County Commsrs. W. H. Fox is Secy. and Commsr.

Tenn., Gleason.—Election is to be held in April to vote on \$12,000 6 per cent. 20-year \$500 electric-light-plant bonds. If election carries, \$7000 of the issue will be offered about May 1. R. J. Whiteworth is Mayor.

Tenn., Jacksboro.—Bids will be received until noon Mch. 2 for \$150,000 30-year \$100 to \$1000 Campbell county road bonds; interest not to exceed 5 per cent. Address A. B. Mahan, Secy. County Commsr.

Tenn., Lexington.—Bill authorizing issue of \$15,000 of bonds to retire outstanding indebtedness has passed the Legislature and been signed by the Governor. The bonds have been purchased by John Nuveen & Co., Chicago.

Tex., Anderson.—Election is to be held in Grimes county Mch. 3 to vote on \$65,000 5 per cent. 10-40-year bonds Road Dist. No. 5, Precinct 1. Reid Rikard is County Judge.

Tex., Angeles.—\$24,000 of school district bonds are reported sold. Address School Trustees.

Tex., Austin.—The Attorney-General has approved the following securities: \$6000 10-40-year Fayette county bridge refunding bonds; \$39,500 6 per cent. 10-40-year Fayette county bridge refunding bonds; \$900,000 5 per cent. 20-40-year Corpus Christi water-works-improvement bonds; \$94,000 5 per cent. 10-40-year water-works and \$40,000 park and street improvement 5 per cent. 10-40-year bonds Magnolia; \$100,000 5½ per cent. 40-year bonds Milam County Road Dist. No. 6.

Tex., Beaumont.—As soon as \$190,000 Jefferson county road bonds are approved by the Attorney-General they will be placed on the market. Address County Commsr.

Tex., Bonham.—\$10,000 5 per cent. school-building bonds have been purchased by J. L. Arlitt, Austin, Tex.; dated Aug. 15, 1914; maturing 1954; optional 1924. W. A. Spangler is Mayor.

Tex., Ballinger.—Petitions are being circulated asking the Commsr. Court to call an election to vote on \$60,000 Runnels county road bonds. Address County Commsr.

Tex., Bryan.—Election is to be held in Brazos county Mch. 3 to vote on \$400,000 Dist. No. 1 and \$600,000 Dist. No. 2 5 per cent. 40-year road bonds. Address J. T. Maloney.

Tex., Cleburne.—It is now stated that \$410,000 bonds will be voted on March 6 as follows: Sewers, \$180,000; schools, \$130,000; streets, \$100,000. Address The Mayor.

Tex., Coleman.—A petition is being circulated providing for an election to vote on \$100,000 5 per cent. road bonds for Precinct No. 1, Coleman county. Address County Commsr.

Tex., Groesbeck.—Election is to be held June 9 to vote on \$10,000 5 per cent. 20-40-year \$500 water-works-improvement bonds. A. R. Henderson is Mayor. Recent press reports stated the bonds were being offered.

Tex., Corpus Christi.—\$100,000 40-year street-paving bonds are voted. Address The Mayor.

Tex., Cuero.—\$50,000 DeWitt county road bonds are voted. Address County Commsr.

Tex., Denton.—\$112,000 school, fire department, street and water-works bonds are voted. Address The Mayor.

Tex., Eagle Pass.—Bids will be received by B. V. King, Judge of Maverick county, until 10 A. M. Feb. 20 for \$25,000 5 per cent. 9-39-year road and bridge bonds.

Tex., El Paso.—Petition is to be presented to the City Council asking authority to issue \$260,000 of school bonds, \$200,000 to be used to complete high school and \$60,000 for completing Alta Vista school. Address School Beard.

Tex., Hagerman.—Feb. 20 election is to be held in Road Dist. No. 3 to vote on \$10,000 of bonds. Address Dist. Commsr.

Tex., LaPryor.—Petition is being circulated asking that an election be held to vote on \$4000 of bonds to enlarge school. Address School Board.

Tex., Longview.—Election will probably soon be held to vote on \$300,000 Gregg county road bonds. Address County Commsr.

Tex., Lufkin.—\$21,500 water-works and \$40,000 street-improvement 5 per cent. 20-40-year bonds have been purchased by Wm. R. Compton Co., St. Louis.

Tex., Marshall.—\$100,000 of an issue of \$300,000 road bonds Road Dist. No. 1, Harrison county, have been purchased by Rollins & Sons of Chicago.

Tex., Temple.—\$40,000 5 per cent. 20-40-year school improvement bonds have been awarded at par and interest, less a commission of \$174, to N. W. Halsey & Co., Chicago.

Tex., Wills Point.—\$10,000 6 per cent. 10-40-year \$1000 water-works bonds have been sold at par and accrued interest; dated Feb. 1, 1915. Address H. Gilchrist.

Va., Abingdon.—The Washington county public improvement bonds recently purchased by Baker, Watts & Co., Baltimore, are \$18,000 10-30-year 6 per cent. Denomination \$500. Dated Jan. 5, 1915.

Va., Dublin.—Bids will be received until 7:30 P. M. Feb. 20 by J. A. Gaines, Clerk of Council, for \$5000 6 per cent. and \$5000 5 per cent. water and street-improvement bonds.

Va., Fairfax.—Bids will be received until noon Mch. 3 for \$50,000 5 per cent. 10-20-year bonds Providence Magisterial Dist., Fairfax county; denomination \$100 or multiple thereof to suit purchaser. Address Board of County Suprs., F. W. Richardson, Clerk. *Further particulars will be found in the advertising columns.*

Va., Petersburg.—Bids will be received until 4:30 P. M. Feb. 23 by Finance Com. of City Council for \$100,000 colored public school, \$80,000 street roadway 4½ per cent. 40-year bonds. Dated Sept. 1, 1914. Address G. B. Gill, City Auditor. *Further particulars will be found in the advertising columns.*

Va., Princess Anne.—Question of issuing road bonds is under consideration in Princess Anne county. Address County Commissioners.

Va., Staunton.—Augusta Insurance Corporation incptd.; capital \$500 to \$10,000; Jno. M. Londeree, Prest.; H. B. Hupman, Treas., and Robt. W. Johnson, Secy. Business is to begin at once.

Va., South Boston.—Steps are being taken to call an election to vote on bonds for water, sewer improvements and street paving. W. L. Penich is Mayor.

Va., Huntington.—Petitions have been filed with the County Court Cabell County asking that an election be called to vote on \$60,000 road bonds. Address County Commissioners.

Va., Mingo.—Election is to be held in near future to vote on \$39,000 water-works bonds. Address Town Commsr.

Va., Parkersburg.—\$200,000 5 per cent. 10-year \$100, \$500 and \$1000 paving and sewer bonds are voted; dated June 1, 1915. Date for opening bids not yet decided. J. O. Bullock is Supt. and Frank Good, City Clerk.

Va., Parkersburg.—\$40,000 Clay Dist., Wood county, bonds have been sold at par with accumulated interest beginning Jan. 1, 1915, to the following local parties: Wood County Bank, Parkersburg National, Citizens' National, Farmers and Mechanics', Second National, Parkersburg Banking & Trust Co. and the Commercial Banking & Trust Co.

Va., Wheeling.—Bids will be received until noon Mch. 9 by Board of Education of Richland Dist., Ohio county, Geo. S. Eberts, Prest., for \$50,000 5 per cent. 10-34-year \$500 school bonds.

Va., White Sulphur Springs.—Bids will be received until 1 o'clock March 13 for \$9500 6 per cent. 10-20-year water and sewer bonds. Address W. A. Mastin, Mayor, or B. F. Dixon, Recorder. *Further particulars will be found in the advertising columns.*

#### FINANCIAL NOTES

The merger of the United Casualty & Insurance Co. of Memphis with the Republic Casualty Co. of Cleveland, O., which is now conducting business in Tennessee, is announced. The first-named company had \$300,000 capital, and assets \$405,859. The capital of the new company is \$1,000,000.

#### THE NORTHERN CENTRAL RAILWAY COMPANY.

Baltimore, Md., 11th February, 1915. The Annual Meeting of the Stockholders of this Company is called to be held in the Assembly Room, second floor, Union Station, in the City of Baltimore, Maryland, at 10:45 A. M., on Thursday, 25th February, 1915, when the Annual Report of the President and Board of Directors for 1914 will be presented, an election held for twelve Directors to serve for the ensuing year, and such other business transacted as may properly come before the meeting.

LEWIS NEILSON, Secretary.



## 13 Yrs. Success Back of This Steel Equipment

For 13 years Merritt & Company have manufactured steel shelving, bins, lockers, etc. for customers all over the United States, including such well-known companies as:

1. Waterman Pen Company.
2. Canadian Pacific Railway Company.
3. Curtis Publishing Company.
4. Du Pont Powder Company.

Merritt equipment has been satisfactory in these places, first, because its design and construction are as correct as can be made. But there is another reason, and that is Merritt Free Advisory Service.

## MERRITT

*Free Advisory Service*

## Steel Equipment

Every steel equipment problem is probably different in some respects from all others. We therefore make sure that Merritt Steel equipment is exactly suited to meet these requirements by the Free Advisory Service of our Engineering Department. We ask for full information, and then suggest the cheapest and best type of steel equipment that will meet *all* your needs.

You are sure before you buy of exactly what you are getting, what it will cost and why it will do your work.

If you will tell us what you want to accomplish with steel equipment, we will send you those of our special bulletins which will give you some suggestions in line with your needs, together with all other possible information. No obligation, of course.



**MERRITT & COMPANY**  
51 N. Front St. Kern Dodge, Receiver Camden, N. J.  
Manufacturers of Steel Factory and Office Equipment since 1889

# Tarvia

*Preserves Roads  
Prevents Dust-*



Ridge Road, eastern town limits  
of Highland, Ind.  
Treated with "Tarvia B".

## Highland's Experience with Tarvia—

"OUR experience with 'Tarvia B' has been most satisfactory. We are satisfied that it is the material to use for a binder and a road preservative on roads that have been built. We shall be pleased to show what 'Tarvia B' has done for us to any one interested in good roads at any time."

—So writes the town clerk of Highland, Ind., Mr. H. F. Dougherty.

Any person who accepts his invitation to go to Highland and see what "Tarvia B" has done for that town will find splendid macadam roadways with a very tough, plastic surface; smooth, quiet, clean, dustless and mudless.

A close examination of the surface of these roads will show it to be so plastic that a hammer blow will change its shape but will not fracture it.

The first cost of tarviating macadam is often slightly greater than the cost of other methods of treatment, but the result is so vastly better and the durability of the road so much greater that the extra expense is more than balanced by the longer life and better condition.

The use of Tarvia on your macadam roads will do away with the dust nuisance, add to property values, and reduce taxes.

*Booklets free on request. Address our nearest office.*

### BARRETT MANUFACTURING COMPANY

New York      Chicago      Philadelphia      Boston      St. Louis      Cleveland      Cincinnati      Pittsburgh  
 Detroit      Birmingham      Kansas City      Minneapolis      Salt Lake City      Seattle  
 THE PATERSON MFG. CO., Limited:      Montreal      Toronto      Winnipeg      Vancouver      St. John, N. B.      Halifax, N. S.      Sydney, N. S.



# Classified Opportunities

## MEN WANTED

**ENGINEERING REPRESENTATIVES.**—Agents with offices in all parts of the United States to represent the Thomas Method of reinforced concrete bridge construction. W. M. Thomas, 915 Hibernian Bldg., Los Angeles, Cal.

IF QUALIFIED for executive, technical, mechanical, professional or administrative position carrying salary between \$2500 and \$12,000, write undersigned counsel, through whom strictly confidential preliminaries will be negotiated for important appointments. Send address only for preface details. R. W. Bixby, Lock Box 134-J4, Buffalo.

**WANTED**—Reliable men (commission basis) in principal cities Central and South America, Mexico and Cuba. Iron and steel products, including steel construction and kindred lines. References. W. E. Beard Co., Sta. A, Chattanooga, Tenn.

**GENERAL AGENT** wanted in every city in United States to take exclusive territory and sell through subagents or dealers greatest furniture and floor polish ever introduced. If you want to establish yourself in permanent, good-paying cash business and have just a few dollars for working capital, apply at once, stating what you have done. R. P. Barnes, 1037 Main street, Darby, Pa.

**WANTED**—Practical tinner with few hundred dollars to accept permanent position with us as shop manager; work simple. Address T. W. Glover, Tubular Bucket Company, Guntersville, Alabama.

**WANTED**—We want an experienced limestone quarry man with a small amount of money to develop our great limestone quarries. These quarries test high and the entire output is already sold. We put up greater portion of the money. Write immediately, giving credentials, experience and amount possible to invest. Paris Business Men's Club, Paris, Tenn.

**WANTED**—Man to take full charge of stone quarry and mill who knows plans and can estimate cut-stone work. Investment of \$14,000 required for two-fifths interest. Address Box 633, Morehead, Ky.

**CONTEMPLATE** starting a knitting mill to manufacture children's socks and stockings. Anxious to discuss proposition with experienced mill manager controlling some capital and capable of taking charge. P. O. Box 1443, Atlanta, Ga.

**SALES MANAGER**—A Canadian farming implement mfg. corporation has an opening for experienced sales manager (preferably with experience in above line), to take full charge of sales department; attractive salary and commission contract guaranteed to right party; \$2500 cash investment and all references required. This is a high-grade proposition for a high-grade man. Investment fully secured. Correspondence treated strictly confidential. Address No. 1693, care Manufacturers Record, Balto., Md.

**FACTORY SUPERINTENDENT**—Position vacant for a high-grade factory superintendent, with executive ability, to take full charge of all branches of a farming implement factory in Canada; applicant must be able to invest \$2500 cash and move at once to Ontario, Canada; contract with good salary guaranteed to right party; investment covered by guaranteed security. Address No. 1694, care Manufacturers Record, Balto., Md.

**TREASURER**—Large mfg. corporation, established 1850, location Canada, has a vacancy for a highly efficient business man as secretary and treasurer; party must be able to invest at least \$5000 cash and give best of references as to ability and character; contract with good salary guaranteed to right party; investment absolutely secured; answer in full or no attention paid. Address No. 1695, care Manufacturers Record, Balto., Md.

## AGENCIES WANTED

**WANTED**—Sales agency for all lines pertaining to builders' specialties; East Tennessee as territory; can furnish satisfactory references to interested concern; modern warehouse facilities. Address Daniel Briscoe, Jr., 325-327 State St., Knoxville, Tenn.

## SITUATIONS WANTED

**A-1 MASTER MECHANIC**, rebuilding plant in La., will be open for position soon; can handle any plant. Address No. 1699, care Manufacturers Record, Balto., Md.

**STRUCTURAL ENGINEER**, 18 years' experience in steel, concrete, general engineering and building construction, office and field, is open for position; best of references. Address No. 1692, care Manufacturers Record, Balto., Md.

**POSITION WANTED**—Native-born American citizen, 31 years of age, married, just returned from South America, wishes to secure position as manufacturer's agent for representative in South American countries. Located over 4 years in Brazil, also in Uruguay, Argentina and Cuba. Speaks Portuguese, German and Spanish. Technical education. Can furnish references as to character and ability. Address No. 1697, care Manufacturers Record, Balto., Md.

## RATES AND CONDITIONS

Rate 20 cents per line per insertion. Minimum space accepted, four lines. Maximum space accepted, 25 lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 10c. per line; 300 lines, 16c. per line; 500 lines or more, 15c. per line.

## EDUCATIONAL

**RENSSELAER POLYTECHNIC INSTITUTE**, TROY, N. Y.—Courses in Civil, Mechanical, Electrical and Chemical Engineering and General Science, leading to the degree of Civil Engineer (C.E.), Mechanical Engineer (M.E.), Electrical Engineer (E.E.), Chemical Engineer (Ch.E.), and Bachelor of Science (B.S.). Also special courses. Splendidly equipped new engineering laboratories. Send for catalogue to Registrar.

## OFFICE DEVICES

**FOR SALE**—New and second-hand office machinery and labor-saving devices of all kinds and makes. We offer some exceptional bargains at present. Collins & Company, 1324 Arch Street, Philadelphia, Pa.

## MODELS

**MODELS MADE FOR INVENTORS**—General machine work. Designing and perfecting. Developing automatic devices and machinery. In a position to do all kinds of light tool and machine work. Prices reasonable. Estimates cheerfully given. Ideal Machine Works, 64 Ann Street, New York City.

## MANTLE AND TILE FLOORS

**NORTHCROSS WOOD MANTELS AND TILE FLOORS** for every purpose. Sold direct from factory to your home. All orders receive prompt attention. Every contractor should have a copy of our new catalog showing the largest line in America. Mailed free. W. J. Northcross Mantel Company, 73 Union Ave., Memphis, Tennessee.

## BUSINESS OPPORTUNITIES

I HAVE an unusually good land-development proposition to offer a responsible party who can supply \$10,000 for working fund. Chas. B. Harman, Gainesville, Fla.

**WANTED**—To correspond with reliable party who wants to start knitting mill; free building, boiler, engine, light. No tax to right party. Box 16, Kernesville, N. C.

\$75 STARTS YOU IN BUSINESS selling adjustable form units for all kinds of concrete work, earning from \$75 to \$150 weekly. Our \$150 outfit has a capacity equal to another one form to each size make, costing \$43.25. Act quick before your territory is gone. Frick Manufacturing Co., Fricks, Pa.

**THE OWNERS** of enormous deposit of finest red shale desire to interest parties in establishment of hollow ware plant on same; unequaled for sewer pipe, tile, etc. Brick plant now in operation on property. Chas. H. Stone, Winston-Salem, N. C.

**WANTED**—Party to go into coal-mining business with \$20,000 to invest. Two seams, 5 and 5 ft. 8 in. thick. Can be worked over one tipple. Island Creek seams of coal. References exchanged with a practical miner. Do not write unless you mean business. 680-acre lease. Full information given in first letter. Address No. 1698, care Manufacturers Record, Balto., Md.

**FOR SALE**—Half interest limestone quarry on R. R., in Alabama; lime 99% pure; rock inexhaustible; gravity proposition; good market for lime; concrete screenings; good freight rates. For full particulars write Thos. Pouli, c/o Duncan Drug Co., Birmingham, Ala.

**BUSINESS BARGAINS**—Light and ice plant for sale; paid 27 per cent. last year. \$50,000 national bank for sale, Texas. \$20,000 State bank for sale. Prosperity has returned to Oklahoma. Write us. Richardson Investment Co., Oklahoma City, Okla.

## INDUSTRIAL PLANTS FOR SALE

### MATTRESS FACTORY

**FOR SALE**—A complete mattress factory; original cost \$7500; will sell to quick buyer for \$2000. This is a big bargain to a party who wishes to engage in the mattress business. Address J. Lee Etheredge, Augusta, Ga.

## ICE AND COLD STORAGE PLANT

**FOR SALE**—In Baltimore, a plant suitable for manufacturing, cold-storage or storage warehouse, equipped 60 H. P. engine, 3 boilers, 35-ton ice machine, 17 cold-storage closets, 25,000 ft. floor space, Penna. R. R. switch. Chas. E. Ecker, 1307 Munsey Bldg., Balto., Md.

## POTTERY

**FOR SALE**—Pottery for manufacturing baking and cooking ware; good building, 2 acres of ground, 3 kilns in fine condition, about 2000 sagers, raw material, partly finished ware, factory in shape for operation, private railroad switch. Appraised at \$6500. Part cash. Robert Adair, Wooster, O.

## FURNITURE FACTORY

**FOR SALE**—On easy terms, a \$30,000 furniture manufacturing plant with from \$20,000 to \$25,000 worth of raw and manufactured materials. Has a good established business. The man or firm that understands the furniture manufacturing business can secure a bargain. If interested, address Lock Box 608, Oxford, N. C.

## MINERAL AND TIMBER LANDS, WATER POWERS AND MISCELLANEOUS PROPERTIES

**FOR SALE**—Dividend-paying orange, grapefruit and pineapple groves, high-class town, town and river-front modern residences, stock farms, colonization tracts. Price \$13.50, \$5.50, \$6, \$10 and \$20 per acre. Pine, cypress, oak, gum and poplar timber tracts and timber leases and coal tracts. Write us your wants. Waters Realty Co., Walton, St. Lucie County, Florida.

**FOR SALE**—1500 Southern farms, suburban homes and timber tracts. Write for free catalogue describing same. Unprecedented opportunities. Johnson's American and Foreign Real Estate Exchange, 926 Pennsylvania Ave., Washington, D. C.

**SEE OR WRITE ME**—I have fine coal lands, kaolin, mica and other valuable mineral interests. Farm lands from \$2.55 per acre up to \$250 per acre. Lands for summer homes at the famous Chimney Rock, N. C. Lots any size. Come to the grandest climate in the country anywhere. Ask your friend about Chimney Rock. J. L. Elliott, your dealer, Rutherfordton, N. C.

**FINE STOCK FARM**, Tioga Co., New York, 1½ miles station, 350 acres under cultivation, balance timber; 3 acres orchard; new 9-room dwelling, large basement barns, sheds, silo, running water. Will include 15 head grade and full-blood Holstein cattle. Price \$16,000.

16 acres, Norwich, N. Y. Beautiful country estate on macadam roads, in town. High and prominently located with beautiful view. Improved by a large dwelling, 14 airy rooms, all outbuildings in first-class condition. Dwelling is located in beautiful lawn overlooking private lake. This splendid property shows a net income of \$1400, and can be sold for \$25,000.

315 acres, Newaygo Co., Michigan, unimproved, on good roads and level, fine soil, adapted to the fruits and crops of this section. All in timber. Price only \$4000.

Arthur M. Connor, Oxford Building, Washington, D. C.

**32.75 AN ACRE**—TIMBER AND GRAZING LANDS.—Forty, eighty, one hundred sixty, six hundred forty, and two thousand five hundred acres in Southeastern Oklahoma. Near oil pipe lines. Good oil and mineral prospects. Government title. Some cash, some terms. No trades. M. E. Williams, McAlester, Oklahoma. Established fifteen years. Reference any bank.

## LITHOGRAPH STONE

**FOR SALE**—LITHOGRAPHERS' STONE. 342 acres of land in one of the upper counties of Tennessee, containing unlimited quantities lithograph stone, located about 1 mile from railroad. Particulars about test of stone, etc., address Capt. W. N. Hughes, U. S. A., 523½ Broadway, Nashville, Tenn.

## TUNGSTEN PROPERTY

**TUNGSTEN (WOLFRAMITE)**—Valuable Tungsten (Wolframite) property for sale. Consists of seven contiguous mining claims on true fissure vein. Only three miles from railroad. Located in Luna county, New Mexico. Priced low for a quick sale. Lawrence R. Boyd, P. O. Box 467, Lynchburg, Virginia.

## TELEGRAPH AND TELEPHONE POLES

TELEGRAPH AND TELEPHONE POLES. We can supply 15,000 to 20,000 cypress poles; f. o. b. Southport water front; f. o. b. shipping facilities. Correspond with Box 265, Southport, N. C.

## TIMBER FOR SALE

**FOR SALE**—40,000,000 feet of good timber, with sawmill and complete outfit; very low freight rates to Gulf ports; very cheap and on easy terms. James A. Terry, Mobile, Ala.

**REAL TIMBER BARGAIN**—50,000,000 ft. 70% N. C. pine, poplar and cypress, all original growth; on Southern R. R. in South Carolina. Liberal terms and low price. J. P. Mulherin (owner), Augusta, Ga.

**FOR SALE**—Hardwood timber on 5000 acres of mountain land immediately on railroad; principally oak, chestnut, hemlock and poplar; pay for as cut and sold. Address North Carolina Talc & Mining Co., Hewitts, N. C.

# Classified Opportunities

## PULP FOR SALE

**PULP FOR MANUFACTURING PURPOSES.**—I would like to correspond with anyone looking for loblolly short and long leaf pine; can supply any quantity; excellent railroad or water shipping facilities. Box 265, Southport, N. C.

## NURSERY STOCK

**\$10,000 WORTH OF NURSERY STOCK GIVEN AWAY.**—To introduce our high-grade, true-to-name, sure-to-bear, easy-to-sell fruit trees, we are offering for sale 1000 shares of stock of \$10 each, and with each share of stock we give a bond good for \$10 in nursery stock. Applicants must be white, reliable, and owners of real estate. Write today. Wills Valley Nursery Company, 902-3-4 Jefferson Co. Bank Bldg., Birmingham, Ala.

## TRUCK SEEDS

**BEST TRUCK SEED:** Grown especially for seed. Any variety the following: Cucumber 55c. lb.; cantaloupe, Rocky Ford, proof, 55c.; melon: Watson 40, any other melon 35c.; tomato \$1.35; okra 25c. Corn, weevil proof, big yeaster, dollar peck, bushel three. Cotton, upland long, selling 14c., heaviest yeaster, dollar fifty bushel. Profit fifty to five hundred dollars acre trucking. Send 4 cents stamps for instructions. L. A. Stoney, Alameda, S. C.

## FRUIT, FARM AND TRUCK LANDS

### ALABAMA

**GOOD INVESTMENT.**—We offer for sale 13,000 acres of best farm, fruit and stock-raising land in solid body, situated only a short distance from Bay Minette in Baldwin County, Alabama.

This land lies well, being level to slightly rolling, with several streams of running water through the tract, making it very desirable for colonization purposes.

This tract can be purchased for the low price of \$7 per acre. Will arrange terms. T. L. Moore & Co., Room 109 Masonic Temple, Mobile, Alabama.

**SATSUMA ORANGE, FIG, PECAN LANDS FOR SALE.**—Improved or unimproved. Any acreage desired. Mobile and Baldwin counties, Alabama. Jas. A. Lewis & Son, 52 St. Francis St., Mobile, Ala.

### FLORIDA

**FREE.**—William L. Larkin's booklet, "The Truth About Florida," with a six-months' subscription (at one-half regular rates) to The Indian River Farmer. Fruit growers, truckers, general farmers, folks interested in Florida, send 25c. to The Indian River Farmer, V-1, Vero, Fla.

**I OFFER FOR SALE** for sixty days some of the finest fruit and farm lands in Polk county, situated near the city of Lakeland, the best town in the best county in the State of Florida, in tracts of 5000 to 18,000 acres. For quick sale will sell at much less than actual value. It is on railroad. Geo. C. Barton, Lakeland, Fla.

**THE PALATKA FARMS COMPANY** of Palatka, Florida, offers to homeseekers the very superior advantages of splendid soil, adapted to potatoes, corn and trucking, or that for oranges and grapefruit, or for combination of both, with location unsurpassed, lying along the beautiful St. Johns River, 2 miles of Palatka, an up-to-date city of 8000 population. It boasts of electric-light and gas plants, four railroads and cheap river transportation. Write for literature. P. J. Becks, Palatka, Fla.

**INVALID** will sell best truck land in Fla., muck, half price; lake-front houses, splendid water, growth enormous. Particulars by John Heaton, 415 Harrison St., Tampa, Fla.

**HAVE** 23,500 acres of high (no swamps) land in Orange county, Florida, a few miles west of Orlando in the Lake region. This land can be bought right at this time. Write Chandler Campbell, Hamburg, Iowa.

**FOR SALE**—Water-front in small tracts on Manatee River, Florida; soil survey shows ideal citrus soil; fine home sites; boating, fishing; close to cities, Tampa Bay and Gulf resorts; flowing wells. Address Manatee River Land Co., Inc., 101½ Franklin St., Tampa, Fla.

**PINEY POINT**, the Deep-Water City. Other towns and would-be towns have to fight and wait for appropriations to get deep-water facilities.

Nature made it for us, and in addition gave us immunity from frost, for just north of Piney Point is the broad expanse of Tampa Bay.

Teracea Island and the Manatee River towns and farms have good water protection, but not deep water. We have both.

Also an abundant supply of artesian water for all purposes.

Nature laid the foundation. We are doing the rest. Will you join us? The Piney Point Land Improvement Co., Palmetto and Piney Point, Fla. Jno. W. Jackson, Manager.

**FLORIDA REAL ESTATE OF MERIT.**—Let me tell you about our bungalow sites, 10 to 40-acre tracts for citrus fruit, and the finest country clubhouse in Florida. Literature free. Address J. F. Darneille, Box 65, Fort Monroe, Va.

**FOR SALE**—82 acres of pine land and hammock land; 500 orange trees, 300 grapefruit trees; both are seedling and budded; 2000 boxes; 6-room house; 1 good stable; in 3 years 5000 boxes; close to the Caloosahatchee River; 2 miles west of La Belle. Cash, \$14,000, or \$7000 cash down and balance 2 or 3 years with 8 per cent. J. N. Blount, owner, La Belle, Fla.

**FOR SALE**—From 10 to 10,000 acres choice DeSoto county, Florida, cut-over pine lands. Soil suitable for citrus fruits or vegetables. Close to railroads. Particulars on request. Address Owners, P. O. Box 5, Limestone, Fla.

**FARM LANDS IN THE RICH LAKE BUTLER SECTION.**—90 acres, 20 in cultivation, \$720; 75 acres, 30 in cultivation, \$1000; 80 acres lake front, ideal location for winter home, \$300; 84 acres, two and a half miles out, \$340; 80 acres, two miles out, \$1000; 20 acres, improvements worth the money, \$1600; 120 acres, three miles out, \$1700; 187 acres, one and a half miles out, \$3553; 148 acres, \$1000 worth of cattle, sugar mill and farming implements, all for \$3000. Address William Johnson, Lake Butler, Fla.

**INDIAN SPRINGS, FLA.**, in the famous Indian River country; ideal climate; close to railroads; quality of land proven by fruits and vegetables now being grown; small tracts fruit and truck land, \$30 to \$50 per acre; small cash payments, small monthly payments without interest; prices of larger tracts for dairying and stock raising furnished upon request. Write for particulars, photos, etc. We'll tell you plain facts. Indian Springs Land Co., 102 Canal St., New Smyrna, Fla.

### LOUISIANA

**FOR SALE**—320-acre plantation, 1600 acres in cultivation; 45 miles, implements and tools; two 6-room residences; in Madison parish, La., 30 miles west of Vicksburg, Miss.; V. S. & P. R. R. runs through plantation; depot in center; large acreage seeded in oats; ideal for grain, cattle, stock or cotton farm. J. A. Mann, Greenville, Miss.

## MISSISSIPPI

**IS HE CRAZY?** The owner of a plantation in Mississippi is giving away a few five-acre tracts. The only condition is that figs be planted. The owner wants enough figs raised to supply a canning factory. You can secure five acres and an interest in the factory by writing Eubank Farms Company, 500 Keystone, Pittsburgh, Pa. They will plant and care for your trees for \$6 per month. Your profit should be \$1000 per year. Some think this man is crazy for giving away such valuable land, but there may be method in his madness.

## TENNESSEE

**FOR SALE**—Near Watertown, Tenn. This is an extra good proposition. Contains 70 acres, more or less; 7-room 2-story residence; and outbuildings; land practically level; some bottom land; fronts good automobile road; only 2 miles from town. This is an attractive proposition. \$7000. C. O. Van-trease, 209 Stahlman Bldg., Nashville, Tenn.

## TEXAS

**OWN A SMALL-FARM HOME** in the Gulf country, suburban to Houston, Texas, the coming great city of the South. Small cash payment gives possession; small monthly payments pay it out. No interest. No taxes. Big return for those who buy now. Write for free illustrated folder. C. W. Hahl Co., Inc., 504 Com'l Bank Bldg., Houston, Tex.

## VIRGINIA

**THE** best agricultural and stock farms of 2700 acres in Eastern Virginia, on navigable tidewater, including 1700 acres of fine timber; brick barns, etc. Green & Redd, Richmond, Va.

**VIRGINIA ESTATES.**—Colonial homes, plantations, farms, suburban homes, Albemarle pippen orchards, timber lands. Write us for what you want. We have it. R. N. Flanagan & Co., Charlottesville, Va.

**VIRGINIA FARMS.**—Fine blue grass, grain and dairy farms in the heart of the Piedmont section of Virginia, Culpeper, Fauquier and adjoining counties. Ask for catalogue. The L. M. Allison Co., Real Estate Brokers, Remington, Va. Established 1895.

**FOR SALE**—30-acre farm, 7-room house, water plant, necessary outbuildings, fruit; convenient to postoffice and schools; 2 miles from Rappahannock river. W. H. Jesse, Nuttsville, Va.

**ESTABLISHED 1893.**—From long experience we are thoroughly familiar with lands and values and have some genuine bargains listed. Tell us what you want and let us submit some special offerings. Southern Farm Agency, Lynchburg, Virginia.

## FINANCIAL

**AN UNUSUAL OPPORTUNITY** to secure an interest in a splendidly equipped operation in the Pocahontas field, working the original No. 3 seam, 5 feet thick. The management is in the hands of the wealthiest and most successful operators in the field. Over \$400,000 has been spent on the improvements, and the works have never lost a day for want of orders. The large stockholders and directors represent a tonnage of several millions annually and a wealth of many millions of dollars.

Particulars as to the directors and stockholders will be furnished to bona-fide interested parties.

The unusual conditions prevailing for the past year compels the owner (a non-resident) to sacrifice the stock, which will be sold for \$50 per share, par value \$100, and it cost that. Terms easy; \$10 per share down and \$10 per share per month. Certificates in one-share lots of any number. Brokers protected. Address No. 1884, care Manufacturers Record, Balt., Md.

## DAIRY EQUIPMENT

**DAIRY EQUIPMENT.**—For Sale at Bargain Prices—1 Davis 12-bottle filler, medium-sized Tubular Cooler; 1 Reid Pasteurizer, 1 large milk-receiving vat, 1 large starter, 1 small swing churn, 1 large Simplex No. 3 combined Churn and Worker, a quantity of block tin pipe with fittings, 1 milk pump and 12-ft. section of milk conveyor, 1 20th Century Babcock tester, 12 bottles, motor driven. All of the above in good condition. C. H. Yates, Mgr., Oak Ridge, Virginia.

## PATENTS FOR SALE

**FOR SALE**—A nice patent on a spectacle case and pencil holder combined. For particulars address Mrs. D. C. Parsons, Flusher, N. C.

## PATENT ATTORNEYS

**VALUABLE INVENTIONS** justify only best legal service. Consult Vernon E. Hodges, Attorney-at-Law, Barrister Bldg., Washington, D. C. Practice before the U. S. Supreme Court; all Circuit Courts; Courts of the District of Columbia, and the U. S. and Foreign Patent Offices exclusively. Continuous practice since 1886. Extensive experience with all classes of invention, representing lawyers, manufacturers and inventors in every State.

**PATENTS.**—Herbert Jenner, patent atty. and mechanical expert, 606 F St., Washington, D. C. I report free of charge if a patent can be had and its exact cost. Send for circular.

**EUGENE C. BROWN, ENGINEER AND PATENT LAWYER**, Suite 40 Victor Building, Washington, D. C. Member Bar U. S. Supreme Court. Patents and Trademarks. Inventions are considered both from Engineering and Legal standpoints in my prosecution of patents. An experience of over 9 years as Examiner in U. S. Patent Office and over 6 years as Patent Expert in important patent suits are my especial qualifications. Reports upon validity and infringement. Send sketch of invention for advice.

**C. L. PARKER, Patent Lawyer**, formerly member Examining Corps U. S. Patent Office, 924 G St., Washington, D. C. Patents secured. Patent suits conducted. Reports on the patentability of inventions, the scope and validity of patents, and whether any process or machine infringes existing patents. Reference to prominent manufacturers and pamphlet of instructions furnished upon request.

**PATENT YOUR IDEAS.**—\$9000 offered for certain inventions; book, "How to Obtain a Patent" and "What to Invent," sent free upon request; send rough sketch for free report as to patentability. We advertise your patent for sale at our expense. Chandee & Chandee, patent attorneys, 978 F St., Washington, D. C.

**PATENTS** secured or fee returned. Send sketch for free report as to patentability. Guide book and what to invent, with valuable list of inventions wanted, sent free; \$1,000,000 offered for inventions. Patents secured by us advertised free in World's Progress; sample free. Victor J. Evans & Co., 12 Ninth St., Washington, D. C.

**PATENTS THAT PROTECT AND PAY.** Advice and books free. Highest references. Best results. Promptness assured. Send sketch or model for free search of Patent Office records. Trade-marks registered. Watson E. Coleman, Patent Lawyer, 624 F St., Washington, D. C.

# PROPOSALS

## BOND ISSUES

## BUILDINGS

## PAVING

## GOOD ROADS

### GOVERNMENT PROPOSALS

**TREASURY DEPARTMENT**, Supervising Architect's Office, Washington, D. C., January 28, 1915. Sealed proposals will be received at this office until 3 P. M. February 25, 1915, and then opened, for the installation, complete, of an electric passenger elevator in the United States postoffice and courthouse at Clarksdale, Miss., in accordance with the drawing and specification, copies of which may be had at this office in the discretion of the Supervising Architect. O. WENDEROTH, Supervising Architect.

**U. S. ENGINEER OFFICE**, Trust Company Building, Postoffice and Tremont Sts., Galveston, Texas, January 25, 1915. Sealed proposals for construction of motor dredge tender La Porte will be received at this office until 12 o'clock noon February 25, 1915, and then publicly opened. Information on application. C. S. RICHE, Lt. Col., Engineers.

**REASURY DEPARTMENT**, Office of the Supervising Architect, Washington, D. C., January 28, 1915. Sealed proposals will be received in this office until 3 o'clock P. M. March 11, 1915, and then opened, for the mechanical equipment (except elevator) of the experiment station, United States Bureau of Mines, Pittsburgh, Pa., in accordance with drawings and specification, copies of which may be obtained at this office, in the discretion of the Supervising Architect. O. WENDEROTH, Supervising Architect.

**U. S. ENGINEER OFFICE**, Galveston, Texas, February 2, 1915. Sealed proposals for dredging at Port Aransas, Texas, and the Channel from Aransas Pass to Corpus Christi, Texas, will be received at this office until 12 o'clock noon March 3, 1915, and then publicly opened. Information on application. C. S. RICHE, Lieut.-Col., Engineers.

**U. S. ENGINEER OFFICE**, Wilmington, N. C., February 10, 1915. Sealed proposals for dredging in Neuse River, waterway from Pamlico Sound to Beaufort Inlet, and Beaufort Harbor, N. C., will be received at this office until 12 M. March 9, 1915, and then publicly opened. Information on application. H. W. STICKLE, Maj., Engineers.

### BOND OFFERINGS

## \$150,000 5% Road Bonds

Sealed bids will be received at Jellico, Tenn., until noon March 2, 1915, for \$150,000 worth of Campbell county road bonds. Bonds will be in denominations of \$100 to \$1000, at option of purchaser, interest not exceeding 5 per cent, payable semi-annually, and to mature 30 years after date. Semi-annual interest and principal payable at New York or at option of purchaser. Bids must be accompanied by a certified check for \$300, payable to A. B. Mahan, Secretary, Jellico, Tenn. Said bonds to sell not less

than par and accrued interest. The Commission reserves the right to reject any and all bids. A. B. Mahan, Secretary.

### Montgomery County, Va. Bond Issue

Christiansburg, Va. Bids will be received until noon February 22, 1915, for \$35,000 worth of Montgomery County Bonds for the improvement of roads in Blacksburg District. Bonds will be in denominations of \$500 each, bearing 4 per cent. interest, payable semi-annually, and to mature after 20 years, and will be exempt from taxation by any County District or Municipality in Virginia. The Board of Supervisors reserve the right to reject any or all bids. For further information apply to the undersigned or R. L. Hoop, Commonwealth's Attorney.

GEO. W. WILSON, Clerk, Board of Supervisors, Montgomery County, Va.

[CONTINUED ON NEXT PAGE.]

# PROPOSALS

SEWERS

WATER-WORKS

ELECTRIC LIGHT PLANTS

BRIDGES

## BOND OFFERINGS

## Notice of Sale of Fairfax County (Virginia) Bonds

Fairfax, Va.

Sealed bids for the purchase of all or any portion of the bonds to the amount of \$50,000 to be issued by the county of Fairfax, Virginia, for Providence Magisterial District of said county. Said bonds shall be in denominations of \$100 or such multiple thereof as shall be desired by the successful bidders or purchasers, thereof; shall bear interest at the rate of 5 per cent. per annum, payable semi-annually at the office of the Treasurer of the said county, and shall mature and be payable as follows:

\$10,000 thereof ten years from the date thereof.

\$12,000 thereof twelve years from the date thereof.

\$14,000 thereof fifteen years from the date thereof.

\$14,000 thereof twenty years from the date thereof.

Will be received by the undersigned Board of Supervisors of Fairfax County, Va., at Fairfax, Va.

All bids to be subject to acceptance or rejection by said Board and to be opened on the 3d day of March, 1915, at 12 o'clock noon. No bond shall be sold for less than par.

The full faith and credit of the entire County of Fairfax is pledged for the payment of said bonds.

Said bonds are exempted from taxation as provided by Chapter 229 of the Acts of Assembly, 1912.

The Board of Supervisors of Fairfax County, Va.

By F. W. RICHARDSON,  
Clerk of said Board.

## Notice of Bond Sale

Petersburg, Va.

Sealed proposals will be received by the Finance Committee of the Council of the City of Petersburg, Va., February 23, 1915, at 4:30 o'clock P. M. for the purchase of the whole or any part of the following described bonds of the City of Petersburg: \$100,000 "Colored Public School 4½ per cent. Gold Bonds" also \$80,000 "Street Roadway 4½ per cent. Gold Bonds," dated September 1, 1914, and running 40 years straight, bearing interest at the rate of 4½ per cent. per annum, payable semi-annually on the first day of March and the first day of September, at the office of the City Treasurer.

Each proposal must be for the bonds and accrued interest from September 1, 1914, to the date of delivery, and accompanied by a certified check on some responsible banking institution, payable to the Treasurer of the City of Petersburg, for 2 per cent. of the par value of the bonds bid for, and should be addressed to G. B. Gill, Auditor City of Petersburg, and marked "Proposals for 4½ per cent. Bonds."

## Bonds For Sale

On Thursday, March 18, A. D. 1915, at 10 o'clock A. M., the Board of Bond Trustees of the City of Lakeland, Florida, will receive sealed bids at the Commissioners' Room in the City Hall, for the following municipal bonds:

\$130,000 of 5 per cent. Light and Water Bonds, due and payable \$3000 in 1925 and same amount each year thereafter until 1934. \$5000 annually beginning 1941 and continuing until 1961. \$1000 denominations.

\$20,000 of 5 per cent. Fire Department Bonds, due and payable \$2000 in 1932 and same amount annually thereafter until 1941. \$1000 denominations.

\$15,000 of 5 per cent. Hospital Bonds, due and payable \$1500 due 1932 and same amount annually until 1941. \$500 denominations.

All bids must be accompanied by a certified check for 1 per cent. of the amount of bonds bid upon. The Board reserves the right to reject any and all bids. All communications should be addressed to C. D. Clough, Secretary of the Board.

BOARD BOND TRUSTEES,  
Lakeland, Fla.

## Municipal Bonds

White Sulphur Springs, W. Va.

Sealed bids will be received by the town of White Sulphur Springs, W. Va., until one o'clock Saturday, March 13, 1915, for \$8500 6 per cent. ten and twenty-year water and sewer bonds.

Certified check for 10 per cent. of bid to be enclosed. The right is reserved to reject any or all bids. Assessed valuation of property is \$475,448. For further information address W. A. Mastin, Mayor, or B. F. Dixon, Recorder.

## \$84,000 6% Bonds

Bids will be received by the Board of Commissioners of Water-works Dist. No. 1 for \$45,000, and by Board of Commissioners of Sewer Dist. No. 1, Ashdown, Ark., for \$39,000 6 per cent. semi-annual interest 10-25 bonds, February 25, 1915.

Right to reject any and all bids reserved. \$500 certified check must accompany each bid in each district.

A. D. DULANEY,  
Atty. for Boards, Ashdown, Ark.

## PROPOSAL ADVERTISING INFORMATION

RATE: 20 cents per line per insertion.

PUBLICATION DAY: Thursday.

FORMS CLOSE 9 A. M. Wednesday. Copy received later cannot be published until issue of following week.

NIGHT LETTER: When too late to send copy by mail to reach us by 9 A. M. Wednesday, forward by night letter.

## THE DAILY BULLETIN OF THE MANUFACTURERS RECORD:

Published every business day; gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened, or when daily publications are necessary to meet legal requirements.

The same rate applies—20 cents per line per insertion.

## Notice of Sale of \$100,000 of 30-Year 5% Coupon Bonds of City of Greensboro, N. C.

Until 2:30 P. M. March 3, 1915, the undersigned will receive sealed bids for all or any part of an issue of \$100,000 of 30-year 5 per cent. coupon bonds of the City of Greensboro, North Carolina, for the paving of streets and other improvements incidental thereto.

Said bonds to be in denomination of \$1000 each, interest payable semi-annually on the last days of December and June.

The validity of these bonds has been passed upon and approved by Messrs. Caldwell, Masslich & Reed, No. 111 Broadway, New York City, and they will be certified and delivered by the United States Mortgage & Trust Company, 55 Cedar street, New York City.

All proposals must be made upon forms furnished by the City of Greensboro, and must be accompanied by a certified check on some reputable bank for 2 per cent. of the amount of bonds bid for, payable to the order of the Treasurer of said city. The purchaser must pay accrued interest in addition to the amount that is bid.

No bid will be considered for less than par.

Sealed bids will be opened by the Board of Commissioners of the City of Greensboro on March 3, 1915, at 2:30 P. M. or later, and the right is reserved to reject any and all bids.

For further information address

T. J. MURPHY, Mayor,  
Greensboro, N. C.

## \$130,000 Road Bonds

Starkville, Miss.

Sealed bids will be received until two o'clock Monday, March 1, 1915, by the Board of Supervisors of Oktibbeha County, at Starkville, Miss., for \$130,000 First Supervisors' District Road Bonds. Denomination \$500, dated February 1, 1915, maturing \$13,000 for each year from the year 1926 to 1936, and interest, and bearing interest at the rate of 5 or 5½ per cent. per annum, payable semi-annually.

Bids to be accompanied by a certified check for \$1000, payable to J. C. McCreight, president of the Board of Supervisors. The board reserves the right to reject any or all bids.

For further information, apply to M. A. Saunders, attorney for the board.

E. O. McILWAIN,  
Chancery Clerk.

## \$15,000 5% Bonds

Mooresville, N. C.

Mooresville, N. C., offers \$15,000 5 per cent. 30-year improvement bonds at private sale, by act of present Legislature.

E. C. DEATON,  
Town Clerk.

## PAVING, WATERWORKS AND SEWERS

## Water-Works

## NOTICE TO CONTRACTORS.

Magnolia Park (Houston), Tex.

Sealed proposals will be received by the City Secretary of City of Magnolia Park, Texas (postoffice, Houston), up to 10 o'clock A. M. of the 23d day of February, 1915, and then publicly opened, for furnishing material and constructing a system of water-works in said city in accordance with plans and specifications on file with the City Secretary of Magnolia Park.

Specifications, blank proposals and plans will be kept on file at the office of the City Secretary of Magnolia Park, Texas, and at the office of the engineers, M. Griffin O'Neill & Sons, 1505-8 Praetorian Building, Dallas, Texas.

Bidder's bond, issued by a solvent surety company, in the sum of one thousand dollars (\$1000), is required with each bid.

W. J. MCKENZIE, Mayor.

W. H. FARRINGTON, Secretary.

## Sewer Construction

OFFICE OF THE SEWERAGE COMMISSION OF THE CITY OF BALTIMORE.  
ADVERTISEMENT OF STORM-WATER CONTRACT NO. 36, COVERING SECTION NO. 2 OF THE OGRIES RUN INTERCEPTOR, AND SANITARY CONTRACT NO. 148, COVERING SECTION NO. 3, EAST LOW LEVEL INTERCEPTOR.

Baltimore, February 3, 1915.

Sealed proposals in duplicate, endorsed "Proposal for Building Section 2 of the Ogries Run Interceptor, Storm-water Contract No. 36," and "Proposal for Building Section 3 of the East Low Level Interceptor, Sanitary Contract No. 148," addressed to the Board of Awards of Baltimore City, will be received at the Office of the City Register, City Hall, Baltimore, Md., until 11 A. M. Wednesday, February 24, 1915, for building Section 2 of the Ogries Run Interceptor and Section 3 of the East Low Level Interceptor, respectively, as shown on plans on file in the office of Mr. Calvin W. Hendrick, Chief Engineer of the Sewerage Commission.

Specifications and plans can be obtained upon application at the Office of the Secretary of the Commission, 904 American Building, on and after Tuesday, February 9, 1915.

A charge of \$5 will be made for each set of specifications and plans, which charge will be refunded upon the return on or before February 24 of the unused specifications and blueprints in good condition, or upon the return of the general specifications and plans in case a bid is submitted.

Certified checks of the bidders on a clearing-house bank, made payable to the order of the Mayor and City Council of Baltimore, will be required to be deposited with each bid as follows:

Storm-water Contract No. 36.....\$2500.  
Sanitary Contract No. 148.....1700.

Approximate Quantities.  
Storm-water Contract 36.

11,000 cu. yds. of Excavation.  
2,900 cu. yds. of Concrete.  
145 cu. yds. of Brick Masonry.  
120,000 pounds of Reinforcing Steel.  
1,900 lin. ft. Concrete Sheet Piling.  
24,500 lin. ft. of Spruce or Pine Piling.

Sanitary Contract 148.

9,000 cu. yds. Earth Excavation and Refill.  
2,600 lin. ft. 36" Sewer.

The successful bidder on this contract will be required to give bond and comply with the City Charter respecting contracts.

The Board of Awards reserves the right to reject any and all bids.

By order of the Sewerage Commission.  
CHARLES ENGLAND, Chairman.

HARRY W. RODGERS, Secretary.  
Approved February 3, 1915.

JOHN HUBERT,  
Acting President Board of Awards.

## Sewer and Water-Works Materials

Morehead City, N. C.

The City of Morehead City, N. C., will purchase on February 19, 1915, 8 P. M., sewer pipe, cement, manhole flush tank castings, etc., for approximately 23,000 feet of sewers, cast iron pipe, lead, jute, hydrants, valves and galvanized pipe for water extensions.

For specifications and bidding sheet apply  
THE J. B. McCRARY COMPANY,  
Engineers,  
Atlanta, Ga.

E. H. GORHAM, Mayor.

## MISCELLANEOUS

## Wharf

## NOTICE TO CONTRACTORS.

St. Petersburg, Fla.

Sealed bids will be received by the Commissioners of the City of St. Petersburg, Fla., until 10 o'clock A. M. February 15, 1915, for the construction of a wharf or landing parallel with south shore line of Dock No. 1, as shown on plan of Bayboro Commercial Harbor. Said construction may be of wood or concrete, but according to requirements on file in the office of the City Engineer, and must be completed in 3 months. A certified check for \$300 shall accompany each bid. City Commissioners reserve the right to reject any and all bids.

W. F. DIVINE,  
City Clerk.

## Bridge Letting

Plans, specifications and proposals will be received at "Jones Low Bridge" on February 19, 1915, at 12 o'clock M., for the erection of a steel bridge at said point, over Meherrin River. This bridge is located about two miles south of Lawrenceville, Brunswick county, Virginia.

BOARD OF SUPERVISORS.  
By W. T. Sledge, Clerk.  
Lawrenceville, Va.

## Gas Franchise

Lake Charles, Louisiana, is offering a most liberal gas franchise, and the City Clerk will receive sealed bids up to 10 o'clock A. M. February 25, 1915.

ANDREW COOK, City Clerk,  
Lake Charles, La.

# WHAT ARE YOUR REQUIREMENTS?

THE ADVANTAGES OF HAVING ALL MIXERS OF THE  
SAME MAKE ARE WELL KNOWN!

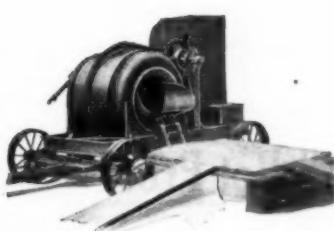
No Matter How Large or How Small Your Job or What Its Character

## THE "MILWAUKEE LINE"

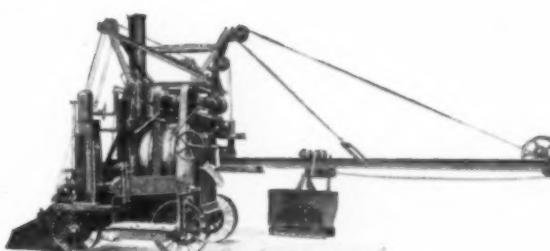
WILL FILL YOUR NEEDS



**MILWAUKEE MIXERS**  
From 4 to 100 cu. ft. per batch  
Equipped with Steam, Gasoline, or  
Electric Power



**WISCONSIN  
LOW CHARGING MIXERS**  
5, 9, 14 cu. ft. per batch  
Equipped with Platform or Batch Hopper



**MILWAUKEE STREET PAVING MIXERS**  
10, 16, 22 cu. ft. per batch  
Equipped with Boom and Bucket, or Chute  
Steam, Gasoline, or Electric Power

## MILWAUKEE CONCRETE MIXER CO.

WRITE FOR CATALOGUE K-22

965—30th Street, MILWAUKEE, WIS.



Type O Theew on Typical Street Grading

## The Theew Shovel Is Economical IN

Shallow cuts encountered in street and road grading, as well as in the deep cuts encountered in digging cellars, sewers, in brick yards, railroad contracting, etc.

The owner of the shovel shown in the cut writes as follows:—

It was very gratifying to us to receive the following telegram from our Superintendent at Greenville, S. C., this morning:

"Shovel moved two-hundred and eighty-five cubic yards in ten hours today. Everything seems to be satisfactory. Cut twelve to eighteen inches. Shall I accept? Wire answer, please."

We have just replied to the above as follows:

"Accept it cheerfully. Sorry they did not show us sooner."

To our minds it would be ridiculous for a contractor to be without a shovel if it will handle two-hundred and eighty-five yards in ten hours on 12 to 18-inch cutting. We enclose herewith our check in accordance with the terms of the contract.

Very truly yours, L. B. West, President,

The West Construction Co., Chattanooga, Tenn.

**The Horizontal Crowding Motion**, which is a **Patented** and **Distinctive Feature** of The Theew Shovel, enables it to handle all classes of material and conditions encountered successfully and economically. Write for catalogue "M" and list of Theew Owners near you.

**THE THEEW AUTOMATIC SHOVEL CO., Lorain, Ohio**

## INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

## Change of Office Address.

Wm. Newton Diehl, architect, of Norfolk, Va., has removed his offices from the Monticello Arcade to 46 Chamberlain Bldg. Mr. Diehl writes that he would like to receive latest catalogues, descriptive pamphlets, samples, etc., of building materials and appliances.

## Structural Steel Contract Awarded.

Contract has been awarded by the Pittsburgh-Buffalo Co., Frick Bldg., Pittsburgh, to Wm. B. Scaife & Sons Co., 221 First Ave., Pittsburgh, for the structural steel work and steel frame runway required in connection with new conveying machinery installed for handling coal.

## New Orleans Agents for Primm Engines.

The Power Manufacturing Co., Lima, O., maker of the Primm engine, operated by crude oil, fuel oil, distillate or kerosene, has appointed Stauffer, Eshleman & Co. as its New Orleans representative. The adaptability of the engine to a variety of purposes and its excellence for irrigation work have resulted in five shipments to the agency since the relations were established about a month ago.

## New President of Universal Portland Cement Co.

B. F. Affleck has been elected president of the Universal Portland Cement Co. of Chicago, a subsidiary of the United States Steel Corporation, to succeed Edward M. Hagar. Mr. Hagar recently resigned to assume the presidency of a new company which he is forming to acquire a chain of Portland cement plants covering a large part of the United States. The headquarters of this new company will be in Chicago.

## New Federal Postoffice Completed.

Opening of the new Federal postoffice at Raleigh, N. C., recently completed by the Boyle-Robertson Construction Co., Inc., 1516 H St. N. W., Washington, D. C., adds another striking building to that growing city. In constructing this building the contractors worked the old granite used on the former building over so that it conforms and makes a perfect match with the new portion. The building is thoroughly equipped from top to bottom and is modern in every respect.

## Gasoline Operated Locomotive Crane.

The Industrial Works of Bay City, Mich., has added to its extensive line of locomotives and wrecking cranes a small locomotive bucket crane operated by a gasoline engine. Such a crane is especially adapted for light or intermittent work, such as handling coal, ashes, etc., or for service in places where the use of steam is objectionable. In operation it should be very economical, as there is no waste of fuel when the crane is not actually working, and a further advantage is that it is available for immediate use at all times.

## Exhibit of Office Appliances.

H. C. Grubbs, 22 N. 7th St., Richmond, Va., Virginia sales agent for Dalton Adding Machines, reports that so successful was the first business show conducted by the Richmond Office Appliance Association at Richmond, Va., recently, that the promoters intend to make it a permanent proposition, and probably a show on a larger basis will be conducted in the early fall. Sixteen exhibitors, all local representatives, with exhibits covering every known labor-saving device and piece of office equipment of the higher type contributed to the success of Richmond's first office appliance show.

## Sales Manager for Ball Engine Co.

Mr. Arthur C. Vicary, formerly of Lorain, O., who has been engaged in the design and sale of steam shovels for years and is widely known to steam-shovel users, particularly in the Eastern section of this country, has recently assumed the duties of sales manager of the steam-shovel department of the Ball Engine Co. of Erie, Pa. The Ball Engine Co. is now placing a line of revolv-

ing steam shovels on the market under the name of the "Erie" steam shovel. Judging from its reputation and standing as a manufacturer of high-grade steam engines, the company's entrance into the shovel field will mean the production of machines of equal merit in the steam-shovel department.

## Electric Light and Water-works Equipment Contracts.

City of Quitman, Ga., J. R. Davis, Mayor, has awarded electric-light and water-works equipment contracts through Atlanta offices of the following concerns: Ames Iron Works, Oswego, N. Y., two 400-horse-power Ames-Stump Unaflow engines; Babcock & Wilcox Co., 85 Liberty St., New York, two 175-horse-power water-tube boilers, complete, with superheaters; Platt Iron Works Co., Dayton, O., motor-driven pumps; Alberger Pump & Condenser Co., 140 Cedar St., New York, condenser and equipment, and through the Jacksonville, Fla., offices of the General Electric Co. of Schenectady, N. Y., two 250 K. V. A. alternators, with belted excitors, seven-panel switchboard, etc. The J. B. McRary Co. of Atlanta is the engineer in charge.

## Adjustable Concrete Form Unit.

What is said to solve the concrete form problem at small cost is the development by the Frick Manufacturing Co., Inc., of Fricks, Pa., of an adjustable form unit which can be used over and over and assembled into ribs for centering, bonding and shoring in constructing sewers, subways, bridges, cisterns, silos, curbs, walls, pillars, steps, railings, floors, etc. Frick adjustable form units are all standardized and made interchangeable, enabling the user to select and assemble the ribs to suit exact requirements. Different sizes and shapes of ribs for culverts, from the smallest to an arch with many ribs of various dimensions and any length, are manufactured by the company. Either lumber or metal covering, which can be used over and over, is adaptable for Frick adjustable form unit ribs.

## Reinforced Concrete Sewage Outlets.

Portable reinforced concrete sewage tank outfits, complete with necessary pipe fittings, septic tank sets and sanitary sewage outlets for country and suburban homes, school buildings, railroad stations, and for factory and mill villages are now being manufactured at the newly established Cement Products Co.'s plant in Wilmington, N. C. The system of manufacturing these outfits was developed by John F. Harris, one of the incorporators of the company, and in addition to the making of portable sewage disposal plant outfits for isolated buildings, other products using reinforced concrete or similar materials will be manufactured. The Cement Products Co. has recently completed a contract with the Board of Education of New Hanover County, N. C., for installing sanitary privy tank outfits at every rural school in the county.

## Fearn Electric Glue Pot.

Among electrical heating devices manufactured by the Fearn Company, 206 N. Frederick St., Baltimore, is the Fearn electric glue pot, which is especially adapted for use where small quantities of glue or padding cement are required. Sheet aluminum, which has a high conductivity for heat, is used in the construction of the pot. The three parts, containing vessel, electrical heating element and outer shell, composing the pot are locked together rigidly at the top edge of the apparatus, leaving an air space between the parts, eliminating the use of a water jacket. This air space is utilized to distribute the heat evenly over the entire sides and bottom of the containing vessel. An even, steady heat that keeps the glue in excellent condition for any length of time is said to be obtained by attaching the pot to an ordinary electric-light socket. The Fearn Company specializes in the manufacture of apparatus for applying electrical heat to special uses, inherently controlling and limiting temperatures to exact degrees best adapted to the purpose. Devices for vulcanizing and similar baking processes, drying

paper and other materials, ironing or pressing, maintaining glue, sealing-wax, etc., and securing proper fluidity of type metal and other alloys at the casting point, etc., have been successfully developed by the company.

## Bradshaw Burner Rights Acquired.

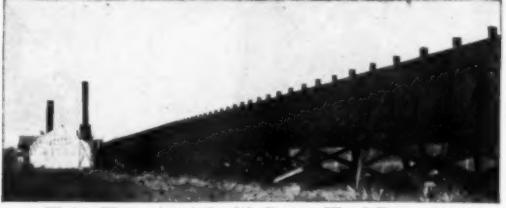
Sole rights of the Bradshaw burner, which, together with the Huesener damper regulator, forms the new Bradshaw-Huesener combination arrangement, have been taken up by the Power Gas Economy, Ltd., gas specialties, 54-60 Lafayette St., New York. Mr. Bradshaw is the steam engineer of the Cambria Steel Co. in Johnstown, Pa., and his invention, which is a burner of the injector type, has been developed at the Cambria works. This burner, together with the Huesener damper regulator, is said to give and automatically maintain ideal conditions on gas-fired boilers, which now, without any difficulty, can be run at a constant efficiency of 80 per cent. The company specializes in by-product producers which generate producer gas under recovery of tar and ammonia, and also represents in the United States the British Coke Ovens, Ltd., of London, and

build coke-oven plants of the regenerative, vertical flue type, both against cash and by-product basis payments.

## Will Manufacture Shovels.

Addition of a new industry for the manufacture of a complete line of long and "D" handle shovels, spades and scoops is announced by the American Manufacturing Co. of Chattanooga, Tenn. This old-established Chattanooga firm, manufacturing hardware specialties, such as "Boss" back-band hooks, electrically welded wire oven racks, bridle bits, etc., recently purchased the plant and equipment of the Owensboro Shovel & Tool Co. at Owensboro, Ky., and removed the equipment to Chattanooga. Equipment has now been installed and the plant will be in operation in a few weeks, beginning with an output of 75 dozen shovels a day. Much of the work of the manufacture of shovels will be done electrically, the company being experts in this line of endeavor. Promises of business which will keep the plant running for some time are reported by the company to have been received. This new shovel industry in the South has developed an opportunity

Use  
Rot Proof  
Lumber



Water Flume treated with Reeves Wood Preserver, Lakeside Irrigation Co., Eagle Lake, Tex.

is usually three or four times the cost of making the material Rot-Proof at first. Yet treated lumber will last from two to four times as long.

## REEVES WOOD PRESERVER prevents decay

It is a heavy tar oil or creosote preparation. It is applied cold, with a brush or by dipping. No special apparatus is required. Yet it penetrates, by natural absorption, deep into the wood cells. There it hardens and refuses to sweat or leach out, in spite of weather conditions.

Natural penetration makes it cheap and easy to use.

May we send you a sample to test today?

THE REEVES COMPANY, Mrs., - New Orleans, La.

## Vertical Farming

## PROVED

BY  
Effects of  
Orchard  
Blasting

with

RED CROSS  
FARM POWDER

These cuts are made from photos showing comparative growth of pear trees from Spring of 1913 to Aug. 1, 1914, Belhaven Orchards, Inc., Norfolk, Va.

IN DUG HOLE



IN BLASTED GROUND

ALL progressive farmers and orchardists know that trees planted in blasted ground grow much faster than those planted in the old way and bear fruit earlier.

This proves the truth of the principles of Vertical Farming, which aims to cultivate downward as well as to till the top soil.

Three years ago tree planting in blasted holes was experimental—now millions of trees are set out by the Vertical Farming method every spring and fall.

In like manner, blasting the subsoil to increase general crop yields, now regarded as experimental, will in a few years, be common.

To learn how and why Vertical Farming may double the yields of your farm, get the Free Reading Course in Vertical Farming, by Dr. G. E. Bailey, one of the best works on soils and soil culture ever published. Sent free with every request for our Farmer's Handbook No. F369. Write now.

Established 1802 DU PONT POWDER CO. Wilmington, Del.

tunity for operating a handle factory in adjacent territory. In taking over the Owensboro plant a complete equipment for a handle factory was secured by the American Manufacturing Co. Adjacent to Chattanooga is an excellent territory with the right kind of timber suitable for the establishment of a handle factory, and the company reports it would be willing to turn this machinery over and order handles to the value of the machinery to anyone establishing such a plant near Chattanooga.

#### TRADE LITERATURE

##### Gas and Electric News.

The Baltimore Gas and Electric News, published monthly by and in the interests of the employees of the Consolidated Gas, Electric Light & Power Co. of Baltimore, in its January issue contains interesting information pertaining to the electrical and gas industry, in addition to many local items, such as electric pumping of Baltimore's water supply, installation of all-gas kitchens and survey of club and group meetings. An illustrated description of the manufacture of illuminating gas, giving the history of its discovery and development, a non-technical talk on electricity, its characteristics, etc., together with a description of the development of large transformers and a chapter devoted to describing the characteristics of incandescent lamps, are included in this number.

##### Pelton Water-Wheels.

The Pelton water-wheel, embracing in its variations of construction and application the Pelton system of power, is illustrated and described in Bulletin No. 8, issued by the Pelton Water-Wheel Co., 19th and Harrison Sts., San Francisco, with New York offices 90 West St. Pelton tangential water-wheels are made in sizes from  $\frac{1}{4}$  to 20,000 horse-power capacity, and are claimed to represent the highest development of the art of hydraulic engineering. Standard Pelton wheels, whether of the single or double-nozzle type, mounted on timber frames, special water-wheels, and Pelton water motors for operating sawmills, generators, double-drum hoists, pumping outfits, etc., are among the company's products described in the bulletin. Hydraulic information, water-wheel tables, weight measurement and pipe friction tables, and tables of working heads and weights of riveted steel pipes are also given in Bulletin No. 8.

##### Connersville Cycloidal Pumps.

Catalogue No. 16, issued by the Connersville Blower Co., Connersville, Ind., especially describes and illustrates the two-impeller type of cycloidal rotary pump, which, for more than twenty years, the company has manufactured along with rotary positive blowers, gas exhausters and pumps of the cycloidal type. Diagrams, showing variation of discharge of two-lobe cycloidal impellers and three-lobe cycloidal impellers and detailed description of their construction, together with illustrations and description of motor-driven pumping outfits, are given in the catalogue. Cycloidal rotary pumps are suitable for pumping water for irrigation, circulating work, etc.; for handling oil, tar, liquid lard, ammonia, cyanide solutions, etc.; for creating vacuums, high or low; for jet and surface condensers, suction roll work, flat suction boxes, evaporation pans, etc. One particular advantage claimed for this type of pump is that with it air or gases and water can be handled simultaneously. Many illustrations showing Connersville cycloidal pumps in actual operation on irrigation projects are included in the catalogue.

##### Concrete Construction and the Edison Fire.

The January issue of "The Edison Aggregate" contains interesting information about the recent conflagration at the West Orange (N. J.) works of Thomas A. Edison, and emphasizes the qualities of concrete as a material for safe and permanent construction. Many illustrations taken during the fire, and also showing the conditions of the concrete structures after being swept by the flames, are given in the publication. This issue of "The Edison Aggregate" includes a copy of a letter written by Thomas A. Edison to W. S. Mallory, president of the Edison Portland Cement Co., 1133 Broadway, New York, in which he says that after a careful estimate by engineers of the damage to the concrete buildings shows that 87 per cent. are in good condition in spite of the intense heat occasioned by the highly inflammable nature of their contents, and that about 85 per cent. of the machinery contained in the concrete

buildings can be used after slight repairs. In conclusion, Mr. Edison writes: "I consider this a triumph for concrete, considering the fact these buildings were among the first built in this country before up-to-date methods of reinforcing were used."

##### "Asbestosteel" Roofing and Walls.

Some years ago the Asbestos Protected Metal Co., Beaver Falls, Pa., in order to protect sheet steel from corrosion, developed a process for covering steel on both sides with a uniform coating of asphalt which is protected from fire and weather exposures by a layer of hardened and waterproofed pure asbestos felt laid over and embedded in the asphalt while it is still hot and soft. This process is described in Bulletin No. 54, issued by the company, which is devoted to the special use of asbestos protected metal in connection with concrete for the construction of roofs and curtain walls, a type of construction called "Asbestosteel." Illustrations and description of Asbestosteel construction, including roofing, walls, ceilings, with a brief form of specification for Asbestosteel roofing and illustrations showing buildings of all kinds in which Asbestosteel in some form is used, are contained in the bulletin. Proposals for Asbestosteel construction prices of asbestos protected metal products, the company's literature, the services of its engineering department or any other information regarding the Asbestos Protected Metal Co.'s specialties may be obtained by addressing the company's main office, First National Bank

Bldg., Pittsburgh. Southern offices of the company are located in Baltimore, Atlanta, Birmingham, Louisville, Jacksonville, Tampa, Dallas, Houston and San Antonio.

##### General Vehicle Co.'s Electric Trucks

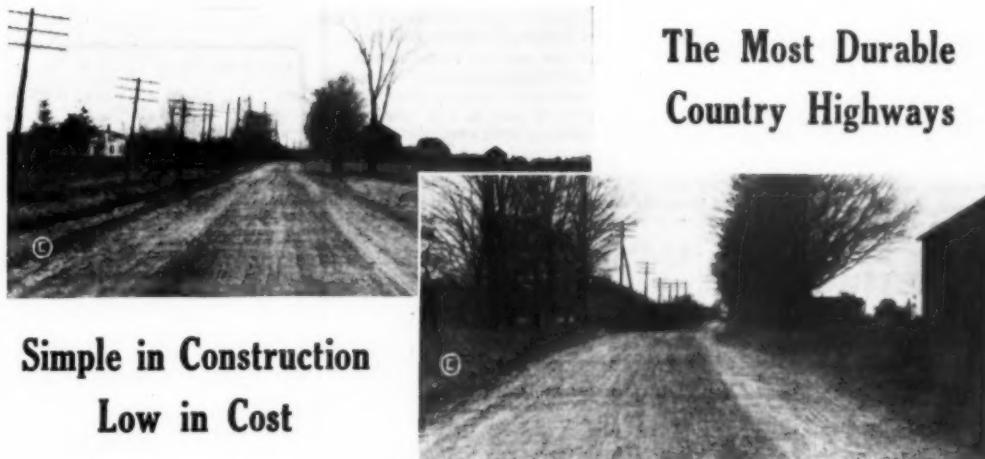
"Efficient Motor Transportation with G. V. Electrics" is the title of an illustrated catalogue issued by the Publication Bureau of the General Vehicle Co., Inc., general office and factory, Long Island City, N. Y., with branches in New York, Chicago, Boston and Philadelphia. In addition to the six standard models, ranging in capacity from 1000 to 10,000 pounds, the company builds winch-equipped trucks, hoist-equipped trucks, emergency wagons, tower wagons, crane trucks, freight trucks, lumber tractors, street-cleaning tractors, ambulances, patrol wagons, busses, coal and ice trucks with suitable power-dumping bodies, armored bank cars, storage vans and various types of trailers, all electrically driven. Supplementing its strong electric line, the company builds high-grade, heavy-duty gasoline trucks with which to supply complete equipment for firms requiring both electric and gasoline-driven types. The G. V. principle of trucking and the potential economy of the electrics are among the subjects discussed in the catalogue. Illustrations and sectional views showing the construction of the electric trucks built by the General Vehicle Co. and many illustrations of the electrics in actual operation are also given in the catalogue.

##### Excavating and Earth-Handling Machinery.

The Cable Excavator Co., Commercial Trust Bldg., Philadelphia, exclusive manufacturer of the Hadsell patented slack cable excavators for general excavating work, such as canal and railroad construction, quarry and coal stripping, sand and gravel washing and screening, loading, etc., has issued a catalogue describing the various types of machines manufactured by the company, with illustrations showing installations which are in successful operation throughout the United States and Canada. Type "A," a machine adapted to excavating from the side of hills and depositing the material in cars, bins or hoppers at the bottom; type "B," adapted for use in stripping the overburden from deposits of sand, gravel, clay, etc., and for working the uncovered deposits, and type "D," an elaboration of type "A," which is especially designed for the excavating of sand and gravel deposits and conveying the material to preparation plant, constitute the several classes into which the company has divided its excavating machinery in order to produce equipment of special advantage to particular installations. Illustrated descriptions of the Parrish flexible arm shaker, "Champion" roller driven screens, and conveyor elevators, "Steel Champion" jaw rock crushers, rock drills, and standard wire rope fittings, are given in the catalogue, together with steel hoisting rope tables.

# Rocmac Roads

TRADE MARK REGISTERED



The Most Durable  
Country Highways

Simple in Construction  
Low in Cost

View of State Highway Road 83, Monroe Co., New York.  
Constructed, May, 1910.

ACTUAL use under the wear and tear of modern traffic is the real measure of the life of a road. For more than ten years Rocmac Roads have been put to this test, and have met most successfully the demands of these hard conditions. They have thoroughly demonstrated the complete superiority of Rocmac over any other method of road building.

Rocmac Roads are simple in construction and require no special machinery or skilled labor. With this simplicity and extreme wear-resisting quality are combined a very low first cost and a minimum of

upkeep expense. The Rocmac Mineral Road Binder prevents raveling and rotting and holds the crown of the road perfectly, even on steep grades and sharp turns. These distinct advantages make Rocmac Roads by far the most satisfactory for town and country highways—even for busy city streets.

Correspondence addressed to any of the following United States or Canadian manufacturers and distributors will receive prompt attention. Our new Road Book will be ready for mailing very shortly—we shall be pleased to send it to you on request.

## Rocmac Road Corporation of America

860 Leader-News Building,

Cleveland, Ohio

### United States Manufacturers and Distributors:

Philadelphia Quartz Company . . . . . 121 So. 3rd Street, Philadelphia, Pa.  
The Frohman Chemical Company . . . . . Sandusky, Ohio  
Mechling Bros. Mfg. Company . . . . . Camden, N. J.  
The Grasselli Chemical Company . . . . . The Arcade, Cleveland, Ohio

### Canadian Manufacturers and Distributors:

Rocmac Roads, Ltd. . . . . . 74 King Street, East, Toronto  
Rocmac Roads (Quebec) Ltd. . . . . . 312 Board of Trade Building, Montreal  
Rocmac Road Syndicate . . . . . Care of Turner, Beaton & Co., Victoria, B. C.  
Rocmac Road Corp. of America, Ltd. . . . . Thorold, Ontario

## Special Advertisements of General Interest.

### Yarn Spinning Plant

#### FOR SALE—COMPLETE

of 7336 spindles, consisting of 2416 mule spindles and 4920 ring spindles, with necessary cards, combers, intermediates, fly frames, skein and canister cone winders and every necessary adjunct to a complete spinning plant. It is located in a city of 30,000 population, with plenty of experienced help.

If desirous of moving the plant, it will be sold per spindle with everything that goes with it, at a low price.

For particulars address

**TROY KNITTING CO.**  
432 River Street

TROY, N. Y.

### An Eight-Set Knitting Mill

#### FOR SALE

which last year produced 500 doz. of fleeces daily, ready to start right up on cheap goods. With the property is 100 reliable horse-power of water and 200 horse-power of steam. Can be started at once as the machinery is in good condition for cheap goods. To parties interested arrangements can be made for about two-thirds of the capital, which will be invested by the old owners. A good opportunity for live parties to manufacture knit goods. For particulars address

**TROY KNITTING CO.**  
432 River Street

TROY, N. Y.

### Receivers' Sale of Timber Lands and Sawmills of Kanawha Hardwood Company

By virtue of a judgment of the Superior Court of Cherokee County, made and entered at the January Term, 1915, of said Superior Court, in certain consolidated actions therein pending, wherein J. L. Smathers, L. E. Bayless and C. M. Hickerson are plaintiffs, and J. Q. Barker, W. B. Haarick and J. A. Lewin, partners, trading and doing business as Kanawha Hardwood Company, et al., are defendants, the undersigned Receivers and Commissioners of the said Court will offer for sale at public auction, to the highest bidder, at the Courthouse door in Murphy, North Carolina, on Monday, March 1, 1915, certain real and personal property, consisting of about 14,000 acres of land in Graham and Cherokee counties, North Carolina, most of which is covered by hardwood timber; also a large band-saw mill, three circular-saw mills, a log loader, and other machinery, for a full description of which see "Cherokee Scout," a newspaper published in Murphy, North Carolina.

The above described property will be sold upon the following terms: One-third to be paid in cash upon the confirmation of sale by the Court, one-half of the remainder of the purchase price to be paid in one year, and the balance to be paid in two years from date of confirmation of sale, with six per cent. (6%) interest from date of confirmation. Title to be retained until purchase price is paid in full. Ten per cent. (10%) of bid to be paid in cash on day of sale as security with compliance with bid.

The above sale is to be made for the purpose of satisfying and discharging the indebtedness of the Kanawha Hardwood Company according to the priorities fixed by the aforesaid judgment in this cause.

**D. WITHERSPOON,  
T. J. HILL,  
Receivers and Commissioners.**

This the 28th day of January, 1915.

### Receiver's Sale of the Snowbird Valley Railway Company's Railroad and Other Property

By virtue of a judgment of the Superior Court of Cherokee County, made and entered at the January Term, 1915, of said Superior Court, in a certain action therein pending, wherein J. L. Smathers, L. E. Bayless and C. M. Hickerson, the Merchants and Manufacturers' Bank of Andrews, N. C., et al. are plaintiffs, and the Snowbird Valley Railway Company is defendant, the undersigned Commissioner of said Court will offer for sale at public auction, to the highest bidder, at the courthouse door in Murphy, North Carolina, on Monday, March 1, 1915, all the property, franchises and effects of the Snowbird Valley Railway Company, which includes the railroad running from the town of Andrews, in Cherokee county, into the timber lands of the Kanawha Hardwood Company, in Graham county, the rolling stock and all other property of the said Snowbird Valley Railway Company.

The above described property will be sold upon the following terms: One-third to be paid in cash upon the confirmation of sale by the Court; one-half of the remainder of the purchase price to be paid in one year, and the balance to be paid in two years from date of confirmation of sale, with six per cent. (6%) interest from date of confirmation.

Title to be retained until purchase price is paid in full.

Ten per cent. (10%) of bid to be paid in cash on date of sale as security for compliance with bid.

The above sale is to be made for the purpose of satisfying and discharging the indebtedness of the Snowbird Valley Railway Company, according to the priorities fixed by the aforesaid judgment in this cause.

This the 28th day of January, 1915.

**J. D. MALLONEE,  
Commissioner.**

### NOTICE OF FORECLOSURE SALE

#### OF THE

### John M. Stone Cotton Mills STARKVILLE, MISS.

Twenty acres of land, partly in the corporate limits and half a mile from the State Agricultural College.

Modern brick building, two warehouses with railroad switch to doors, eighteen cottages and ample water supply. Equipped with 5360 spindles and 150 looms to make 64x64, 38½, 5.15 sheeting. In good running order.

Sale on WEDNESDAY, March 10th, 1915, at Courthouse door, Starkville, Miss.

FOR FURTHER INFORMATION, ADDRESS

**A. C. ERVIN, Trustee**

**STARKVILLE, MISS.**

### CASKS FOR SALE

Heavy, well-made iron-bound casks, 42" diameter middle, 38" diameter ends, 42" high, 1½" thick, in sound condition, with both heads in. Sold singly or in car lots.

**N. & G. TAYLOR CO.**

Third and Chestnut Sts. Philadelphia, Pa.

If you wish to keep posted on the progress of the South  
read the

### MANUFACTURERS RECORD

Price \$4.00 a year, or six months for \$2.00

### Fine Location for WOOD-WORKING PLANT

We have FOR LEASE OR FOR SALE a solid square in the city of Huntington, West Virginia, and on it large buildings, sidetracks, drykilns, shed, warehouses, water, gas and ample power shafting, etc. This property is just vacated, owing to the fact that it was one of several such properties owned by large corporation. It is admirably adapted for wood-working plant especially, and advantageous lease can be arranged for. Huntington has 5c. manufacturing gas.

WRITE AT ONCE TO THE UNDER-SIGNED.

**BOWMAN REALTY CO., Huntington, W. Va.**

### NOTICE OF SALE OF THE FISH FACTORY PLANT

With Appurtenances of the Carolina Coast Products Co.

LOCATED ON THE CAPE FEAR RIVER

Under Decree of the U. S. Federal Court

By virtue of a decree of the U. S. District Court, for the Eastern District of North Carolina, in a suit there pending, wherein R. E. Sumner, T. C. Meadows, and the Atlantic Trust and Banking Co., Trustees, are plaintiffs, and the Carolina Coast Products Co., is defendant, and by authority to me given by said decree, the undersigned will sell, subject to confirmation by the court, on the first Monday in April, 1915, being the 5th day of April, at the U. S. Post Office, in Wilmington, N. C., at 12 o'clock M., at Public Auction, to the highest bidder, all the land, plant and property of the defendant, the Carolina Coast Products Company, located and situated on the West side of the Cape Fear River, near St. Philip's, known as the Fish Factory, except the Commissary Stores, and manufactured products, but including all of the property described in the deed of trust, executed by the Carolina Coast Products Company, to the Atlantic Trust and Banking Co., Trustees, dated the 1st day of August, 1913, and recorded in the Register of Deeds' office, Brunswick county, this State, in Book 22, therein described as follows:

And all that piece and parcel of land, located in Brunswick county, North Carolina, near St. Philip's, on the Cape Fear River, bounded and described as follows:

Beginning at a stake on the Cape Fear River, said stake being situated in the northern line of lot number three (3) in the division of the estate of the late Isaac Reynolds, as divided by his will, and as appears by the plat mentioned there, and runs thence north seventy-eight (78) degrees west two hundred and twenty (220) poles to a stake in the Orton line, thence north twelve (12) degrees east along the Orton line to a stake in the big Hog Pen Pond, the same being the southwest corner of lot number six (6) in the division of the Isaac Reynolds estate, thence south seventy-eight (78) degrees east to the Cape Fear River, thence with the various courses of that river to the beginning, together with all and singular, the tenements, hereditaments and appurtenances thereto belonging, or in any wise appertaining; also all buildings, warehouses, wharves, factories, tools, machinery, and personal property, whether affixed to the realty or not, now owned by said mortgagor company, and those now held, sold, or used thereon in connection with its fish factory, situated on the premises or otherwise, and all real and personal estate, franchises, privileges, rights and powers of every kind and description, now owned or hereafter to be acquired by the said mortgagor company, of the first part:

#### TERMS OF SALE.

The property will be sold as a whole, under the following terms and conditions:

#### GENERAL DESCRIPTION.

One tract land, about 100 acres, factory site, having river frontage, about 1,200 feet, deep water.

Extensive wharves and coal docks, recently constructed.

Main Factory Building, 2 stories, 200x40. Large Fertilizer House, pitch 24 feet, 140x100.

Carpenter Shop, 16x30.

Machine Shop, 20x100.

Boiler House, 90x25.

Dry House and Fertilizer Rooms, 45x26.

Also Dining-room, Kitchen, Sleeping Quarters, Watchmen's Dwelling, Bag House, 16x20; Cook Room, 51x24, and other buildings.

**MACHINERY.**

8 Logan Return Tubular Boilers.

1 Waberto Vacuum Feed Water Heater.

2 American Process Dryers.

2 American Process Screw Presses.

8 Curry Presses.

6 Steam Engines.

Dynamo and Electric Lighting Equipment.

2 Morris' Fish Cookers.

10 Snow Duplex and Smith-Vall Pumps.

Complete Machine and Carpenter Shop Equipment.

Complete Loading and Carrying Equipment.

Reservoir and Storage Tracts.

Machine in good condition; altogether up to date, modern, complete fish factory, ready to operate immediately.

For further information and inventory, apply undersigned.

**FRANK HERBST,**  
Receiver.

Wilmington, N. C.

Iredell Meares.

Attorney Complainants.

## Special Advertisements of General Interest.

Your chance to open up a new market for your goods in  
**SOUTH AMERICA**  
 If interested, write at once to  
**FRIEDR. W. LUTZ**  
 Personal Representatives in Brazil and the Argentine Republic.

RICHMOND, VA.

**SANTA ANNA, TEXAS**  
 Has the most complete natural-gas system in the entire Southwest. Splendid water system. Glass sand assaying 99.53% silica. The best limestone in the State. Fire and brick shales. Large and splendid agricultural trade territory. Oil and gas field developing. Large distributing territory. We invite capital to fully investigate our opportunities.  
**FRED. W. TURNER, Sec., Santa Anna Commercial Club**

### WATER-POWER FOR SALE

In a growing industrial center, 150 H. P. water-power, with absolute water rights, including buildings, with railroad and trolley facilities; 45 miles to Philadelphia and 4 miles to South Bethlehem, Pa. Address Dr. A. O. Kisner, Bethlehem, Pa.

### Steam Engineer Electrical Engineer and Pipe Fitter Desires Good Position

Habits unimpeachable. Punctual and attentive to duty. Reputable. Stencilor. Business and Literary Education.

Write to  
**R. N. SMITH**  
 Hepzibah, Georgia

**N & W  
R. Y. W.**

## MANGANESE

Along the Norfolk & Western Railway in the Piedmont Counties of Virginia and North Carolina, and in the foothills of the Blue Ridge Mountains are large undeveloped deposits of high-grade manganese ore. In the past Virginia has produced more manganese than all other States combined. At present a number of properties have been purchased and are being operated, yielding a profitable return on capital invested. If interested, write for further particulars.

**CEMENT PLANT WANTED**—In one of the Shenandoah Valley counties of Virginia, served by two transportation lines, is a large deposit of high-grade limestone shale and clay, suitable for the manufacture of portland cement. An undeveloped water-power, which can be made to produce at least five thousand horse-power, within one mile from proposed cement mill site.

Further information regarding these and other propositions by writing  
**F. H. LA BAUME, Agr'l and Ind'l Agent, Norfolk & Western Ry. Co., Roanoke, Virginia.**  
 REFERRING TO FILE M-604.

**N & W  
R. Y. W.**

### TO LEASE, HAGERSTOWN MD.

All or part of 125,000 sq. ft., part of fine factory, splendid shipping facilities on 4 railroads, B. & O. siding on premises, up-to-date sprinkler system, good labor market, large drawing presses and enameling ovens on premises.

We prefer metal-working industry with us. For further information apply to  
**JAMES MORRISON, Jr., 244 W. 29th St., N. Y. City, N.Y.**

### Merchants Looking for Better Location

with all conditions in their favor, should write me about new EARLE BUILDING, Birmingham, Ala.—five stories and basement, strictly modern, full fireproof construction, in heart of city, and one hundred feet from best improved corner in the South.

**R. A. TERRELL**  
 503 Title Guarantee Bldg. Birmingham, Ala.

## Bargains in Machinery and Supplies.

### PUMPS Blowers and Filter Tanks

One Deane Steam Pump, No. 16165, horizontal duplex double-acting compound non-condenser plunger and ring pattern, 14-20-18.

One Worthington Steam Pump, No. 100, size 7½x14x10.

Filtration Plant, manufactured and installed by New York Continental Jewell Filtration Co., original cost \$500, consisting of 4 filter tanks 16 ft. in diameter by 8 ft. high, with 2 ft. of sand in each; worth \$100. Also, F. M. Roots Co. 4-in. Centrifugal Blower, size 2, No. 27271, with upright engine, No. 8148, made by N. Y. Steam Power Co., for operating same.

**John C. Stearns**  
 N. Y. Life Bldg., Kansas City, Mo.

### FOR SALE

One Ice Engine and Machine; also a Russell Four-Valve Simple Engine, 15x18, 200 R. P. M., almost new, and a Russell Four-Valve Engine, 16x24, 150 R. P. M., belt connected to a 100 K. V. A. Westinghouse Generator, 2300 volts, 3-phase, 60-cycle, 900 R. P. M., direct connected to a 3 K. W. Westinghouse Ex-citer, 125 volts. Address

**POWER EQUIPMENT**  
 Care Manufacturers Record, Baltimore, Md.

### FOR SALE

We have the following Sterling flasks on hand in good condition, the use of which has been discontinued, owing to our dropping the manufacture of certain articles. Make us a fair offer.

16 38-inch x 14-inch x 5-inch sections.  
 80 20-inch diameter x 5-inch sections.  
 12 32-inch x 14-inch x 5-inch sections.  
 8 34-inch x 16-inch x 5-inch sections.  
 48 24-inch diameter x 3-inch sections.

**SOWERS MFG. CO.**

Buffalo, N. Y.

### USED MOTOR CARS: AND TRUCKS

ASK FOR LATEST LIST TODAY  
**MAR-DEL MOBILE CO.**  
 BALTIMORE, MD.  
 REFERENCES-BRADSTREET OR DUN.

### MACHINERY BARGAINS

No. XB-16. 4½x6" American D. C. S. D. Hoist, with boiler.  
 No. XB-17. 20" x10" Blake Jaw Crusher.  
 No. XB-18. 40 H. P. Pierce Gasoline Engine.  
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 No. XB-20. 15½" x12" x10" Worthington Duplex Pump.  
 No. XB-22. 100 Pcs. 12" 40-lb. U. S. Sheet Steel Piling.  
 No. XB-24. 25 Pcs. 24" 80-lb. "I" Beams, 30'-40'.  
 No. XB-25. 100 Steel 1-side ¾-yd. Dump Cars.  
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Write for Free Complete List  
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**Harris Brothers Company, Owners  
CHICAGO HOUSE WRECKING CO.  
35th and Iron Sta. CHICAGO, ILL.**

### We Buy and Dismantle

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and all kinds of

#### INDUSTRIAL PLANTS

We are always in  
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### Scrap Iron and Steel OF EVERY KIND

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1 No. 3 Wickes Sash Gang.....\$1250.00  
 1 18" x12" S. A. Woods 6-Roll Timber Sizer.....500.00  
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 Sawmills, Edgers, Log Hauls, Live Rolls, Conveyor Systems, Filing Room Equipment, Saws, etc.  
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Buy, Sell and Exchange Machinery  
of All Kinds

WRITE US YOUR WANTS

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3 Lidgerwood Hoisting Engines, cylinders 8½x10, D. D., D. C., first-class condition.

1 Wetherell Twin Corliss Engine, cylinders 20x42, first-class condition.

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In excellent condition, ready for immediate delivery.

1 24" x56" L. H. Girder "Watts-Campbell."  
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 1 18" x32" R. H. Girder "Nagle."  
 1 16" x42" L. H. Heavy-Duty "Ohio."  
 1 16" x42" L. H. Girder "Wetherell."  
 1 14" x36" R. H. Heavy-Duty Frame "Allis Chalmers."  
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Also have a large stock of smaller engines, hoppers, pumps, metal and woodworking machinery, contractors' equipment. New list just being printed. Send for it.

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Special lot of  
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 We buy the entire equipment of Industrial Plants. What have you for sale?

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### 2nd-Hand Machinery CORLISS ENGINES

**COMPOUND:** 32 & 64x60 Allis H. C. C.—26 & 18 x 32x42 Allis.—14 & 28x36 L. & B. H. C. O. **SIMPLE:** 36x30 Corliss; 30x60 H. & B.; 28x36 Ham.; 24x48 Allis; 24x48 Twin Nordberg; 22x42 Ham.; 18x42 St. Louis; 3-16x42 Ham.; St. Louis; 16x36 St. Louis; 3-14x36 St. Louis, Ham.; 13x36 H. Duty Corliss.

### BOILERS

2 125 H. P. B. & W., 150 lbs. pressure.  
 200 H. P. Erie City, 150 lbs. pressure.  
 200 H. P. Heine, 160 lbs. Marine Casing.  
 4250 H. P. Edgemere, 150 lbs. pressure.  
 250 H. P. Sterling, 150 lbs. pressure.  
 4250 H. P. Heine, 160 lbs. pressure.  
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**A. C. UNITS 3 PHASE 60 CYCLES**  
 K. W. Make. Volts. Rev. Engine.  
 50 Burke 440 3600 Kerr Turb. (Steam).  
 125 Westge. 240 3600 Parsons Tur. (Steam).  
 165 Westge. 440-220 225 18x18 Erie City.  
 250 Ft. Way. 2300-225 300 18x18 Erie City.  
 300 Westge. 440-220 200 Westg. Vert. C. Comp.  
 300 G. E. 480 200 24x22 Erie Ball.  
 2 300 G. E. 550-440 223 1 Comp. & 1 simple Harr. bg.  
 400 G. E. 2300-120 Mc. I. & S. Vert. C. C.

2 400 G. E. 2300 150 & 36x36 Buckeye.  
 500 Westg. 2300-440 3600 H. P. Westg. St. Turb.  
 600 Westg. 440 90 32x48 Allis Corliss.  
 1000 Westg. Any 1800 Low-press. Turb.  
 1000 G. E. Any 1800 Mix. press. Curtis.  
 2 1000 Westg. Any 1800 Mix. press. St. Turb.

### D. C. UNITS—250 Volts

K. W. Make. Volts. Engine.  
 400 Ft. Way. 250 24x27 Buckeye R. H.  
 400 G. E. 275 16 & 30x24 Erie Ball.  
 250 Westge. 3-Wire 16 & 31x27 Erie City.  
 2 250 G. E. 275 16 & 31x27 Erie City C.C. Cor.  
 2 250 G. E. 275 16 & 31x27 Erie Ball & Wood.  
 200 Westg. 3-Wire 17 & 28x20 Ridgeway H. T. C.  
 100 G. E. 3-Wire Ridgeway Tand. Comp.  
 100 Westg. 3-Wire 12 & 20x16 Ridgeway H. T. C.  
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 35 G. E. 250 Curtis Steam Turb.  
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**Corliss Hoisting Gasoline**  
 16x36 Reliance Corliss Engine  
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 16x42 Harris Corliss Engine  
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 Hoisting engine, double drum with vertical boiler, 6 H. P. only \$175.00.  
 20 H. P. St. Mary's gasoline engine good as new, used 1 month, \$225.00.

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#### SPECIALS

400 K. W. Westinghouse-Parsons 60-cycle, 2 or 3-phase, 440-volt, with condenser.  
 300 H. P. Smith, type E, Gas Producer Plant, complete.  
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In replacing our manufacturing equipment we find the following first-class

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16" x 6" Reed.  
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20" x 12" Lodge & Shipley, Q. C. G.  
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#### SPECIAL LATHES

No. 3 Lodge & Shipley Rapid Reduction Lathe.  
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3" x 18" Lodge & Shipley Single Pulley Driven Lathes.

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Globe Power Hack Saw, 8" capacity.

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One Marion Double Grinder.  
One Marion Double Grinder on stand.  
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One Mueller Grindstone Frame for 4" x 27" stone.  
One 12" x 40" Mumford Molding Machine.  
Write for complete description with prices of machines in which you are interested.

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CINCINNATI, OHIO

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1 42" 3-drum Perfection Sander, thoroughly overhauled.....\$350.00  
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1 20" Carrey Hand Jointer.....\$100.00  
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Woodworking machinery of all kinds.  
Write, stating your requirements.

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We do not make extravagant statements about the condition of our

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We have made and intend to retain our reputation for reliability.

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Two 75 H. P. Three-Cylinder Belted Type; seen running. Bargain.

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WANTED—A second-hand 12" x 96" engine lathe; also second-hand structural steel suitable for a building 40' x 90'.

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Three very fine burglar-proof safes, suitable for bank, factory or large mercantile house. Rare bargain. A full line of new and used safes.

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300 K. W. Crocker-Wheeler, Wetherill engine.....\$8500.00  
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75 K. W. Crocker-Wheeler to Harrisburg engine.....1450.00  
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35 K. W. Crocker-Wheeler to Ames engine.....900.00  
Send for catalog.

See Sachsenmaier & Co. 143 N. 3d St., Phila., Pa.

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1-75 K. W. Bullock 60-cycle, 3-phase, 220-volt Alternator, direct connected to 12x15 Skinner Automatic Engine. Practically good as new.

1-16x22 Atlas Left-Hand HEAVY-DUTY 4-Valve Engine. Wheel 9 feet in diameter by 22½-inch face.

3-100 H. P. each 66" x 18" BUTT STRAPPED, TRIPLE RIVETED Horizontal Tubular Boilers Complete.

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CHICAGO

## BARGAINS

1 25 H. P. Triumph, 110-125-volt, compound wound, D. C. Motor or Generator.  
1 37½ K. W. Westinghouse 125-volt Generator.  
1 3 H. P. Westinghouse 3-phase A. C. Motor.  
1 each 2, 5 and 10 H. P. General Electric 3-phase Motors, 1200 R. P. M.  
1 8" x 8" Ingersoll Belt-driven Air Compressor.  
1 8" x 8" Ingersoll Duplex B. D. Compressor.  
1 10½" x 12" Ingersoll-Rand B. D. Compressor.  
Refrigerating Machines, 2 to 100 tons.  
Gas Engines, 2 to 500 H. P.  
Motors, all sizes, A. C. and D. C.

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We have accumulated a stock of wire rope that we offer at bargain prices. The lengths run from 60 to 3000 feet, from ½" to 1½" inches diameter. These are new ropes and perfectly good for a variety of purposes, but are of construction different from our regular stock ropes. It will pay you to get a list of these with our prices.

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WE HAVE  
**16 Water-Tube Boilers**  
200-400 H. P.  
FOR SALE CHEAP  
EDGAR M. MOORE & COMPANY  
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#### RETURN TUBULAR BOILER WANTED

One 72" x 18' return tubular boiler. Must have boiler insurance certificate for 125 lbs.

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Boilers, Stationary Engines, Hoisting Engines, Pumps, new and second-hand, every size and for every duty.

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#### CORLISS ENGINES

16x36 Watts-Campbell (latest type), \$500.  
14x30 Hughes-Phillips (latest type), \$500.  
14x16 Erie City Automatic (latest type), \$350.  
12x36 Watts-Campbell (latest type), \$450.

#### DUZETS & SONS

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#### STEAM ENGINE AND MOTOR DRIVEN PUMP

25 H. P. 9x12 Nagle Center-Crank Plain Slide-Valve Engine in excellent condition at low price.

Motor-Driven Centrifugal Pump, 250 gals. per min. against a 225-ft. head, practically new, at half price. Will equip with any style motor desired.

Electrical apparatus of all kinds at lowest prices.

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#### Motors, Dynamos, Switchboards, Etc.

400 H. P. G. E. Induction Motor, 720 R. P. M., 220 volts, complete.....\$2000.00
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50 H. P. G. E., 2-phase, 850 R. P. M., complete.....300.00
25 H. P. G. E., 2-phase, 850 R. P. M., complete.....245.00
35 H. P. G. E., 3-phase, 850 R. P. M., complete.....215.00
35 H. P. Westinghouse, 2-phase, 1140 R. P. M., complete.....200.00
25 K. W. C. & C. to Watertown engine, 115 volts.....400.00
30 K. W. Eddy to New York safety engine, 120 volts.....500.00

Large stock of smaller motors and dynamos, both A. C. and D. C. Let us have your requirements.

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ENGINES, THROTTLING : 20x24 H. S. & G.; 16x18 Skinner; 16x18 Ames; 14x14 Lewis, vertical; 12x13 New Enterprise; 12x14 Gibbs; 11x16 H. S. & G.; 10x12 Ajax; 10x18 Nagle; 9x16 Brownell; 8x10 New Erie; 8x10 Brownell; 7x10 Atlas; 6x6 Beggs; 3x4 Kriebel.

BOILERS, STATIONARY : HIGH PRESSURE : 1 200 H. P. for 125 lbs.; 2 150 H. P. for 150 lbs.; 3 150 H. P. for 125 lbs.; 2 100 H. P. for 125 lbs.; 2 80 H. P. for 125 lbs.; Standard from 150 H. P. to 20 H. P. for 100 lbs.

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GENERATORS AND MOTORS : All sizes and kinds, belted and direct connected.

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Soil manufacturers of the Leader Injector and Ejector. Ask for circular.

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#### GENERAL ELECTRIC MOTORS

230 volts, like new, about 2 years old.
2 50 H. P., 650 shunt wound D. L. C. ....\$375.00
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1 25 H. P., 650 shunt wound D. L. C. ....250.00
1 25 H. P., 650 comp. wound D. L. C. ....265.00
2 15 H. P., 925 comp. wound D. C. V. C. ....170.00
1 15 H. P., 625 comp. wound D. L. C. ....200.00

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143-145 N. Third Street, Philadelphia, Pa.

#### FOR SALE—New Lathes at Bargain Prices

Geared head 20" x 10", 18" x 10", 18" x 8", 16" x 8", 16" x 6". Cone head 20" x 10", 15" x 8", 15" x 6". All the above with semi-quick-change gears.

Second-hand lathes with geared heads, quick-change gears, 16" x 8", 16" x 6", 15" x 6". Second-hand lathes, cone head, plain gears, 29" x 18", 27x16", 20" x 10", 18" x 8", 13" x 6", 13x5".

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**WE** are dismantling a large plant formerly operated by the American Product Co. of Philadelphia, and are offering for sale all of the machinery used in the plant, consisting of Hydraulic Presses, Roller Presses, Digesters, Tanks, Conveyors, Boilers, Engines, Heaters, Pumps, Shafting, Hangers, Pulleys, Piping, etc.

This material is all in good condition and can be shipped at once. Illustrated circular will be mailed upon application. A partial list of the outfit is given below :

Nine 350-ton Boomer & Boschart Extra Heavy Downward Pressure Hydraulic Presses, steel beams, steel cylinder, iron platen, inner diam. of cylinder, 18"; diam. steel rods, 4½"; width between rods, 72"; movement of ram, about 48"; platen, 62" square. Each Press complete with pan 6x6". Presses arranged for transfer-car system. Each Press complete with transfer car, also four.

Eight Roller Presses, made by Kutztown Foundry & Machine Co.

Sixty Digestor Tanks, 68" diam. and 18 to 20" long, ¾" and ¾" shells.

One Rectangular Open Tank, 4' wide, 10' long, 30" deep, ¾" material.

Two Cylindrical Wooden Tanks, 8" diam., 14" high, open top, ¾" material.

Eight 150 H. P. 72" x 18" Horizontal Return Tubular Boilers, 125 lbs. working pressure.

Six 100 H. P. 78" x 20" Horizontal Return Tubular Boilers, 125 lbs. working pressure.

One 72" Self-supporting Steel Stack, about 80' high, ladder entire length.

One 72" Self-supporting Steel Stack, about 100' high, ladder entire length.

One 46" Self-supporting Steel Stack, about 80' high, with ladder.

One 12" x 36" Allis Right-Hand Corliss Engine, 60-120 H. P.; wheel 10" diam., 17" face; split pulley 72" diam., 17" face; 4" steam, 5" exhaust.

One 12" x 36" Allis Left-Hand Corliss Engine, 50-100 H. P.; split wheel 9" diam., 15" face; 3" steam, 5" exhaust.

Large assortment of Shafting, Hangers, Pulleys, Conveyors, Link Belting, Piping, etc.

One Revolving Wire Screen, mesh openings in screens 6 to 1, 48" diam., 12' long, 52" x 3" pulleys.

One Revolving Wire Screen, mesh openings in screen 6 to 1, 36" diam., 12' long, 56" x 3" pulleys.

Mac A-1 co

## FRANK TOOMEY, Incorporated

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**POWER and COAL MINING EQUIPMENT  
IN EXCELLENT CONDITION  
FOR SALE**

Direct Current Generating Sets, 250 and 550 volts.  
Boilers, 150 H. P., Return Tubular.  
Feed Water Heaters—Cochrane, Stillwell-Bierce and McGowan.  
Horizontal and Vertical Steam Engines, 5 to 320 H. P.  
Air Compressors—Laidlaw-Dunn-Gordon and Norwalk, capacities 900 cu. ft. to 2100 cu. ft.  
Separators, Steam Traps and Piping.  
Steam Pumps, Piston and Plunger, best makes.  
Mining Equipment. Full list furnished on request.

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PIPE  
Second-Hand**

All Sizes,  $1\frac{1}{8}$ " to 24"

Furnished with new threads and couplings, suitable for every practical purpose.

Also large assortment of Contractors' Equipment, Hoisting Engines, Boilers, Concrete Mixers, etc.; all thoroughly overhauled.

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167 South St.      NEW YORK

**FOR SALE  
PIPE NEW &  
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Furnished with Threads and Couplings.  
Suitable for All Practical Purposes  
All Sizes In Stock Ready  
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Send us your inquiries and get our prices.  
It will interest you.

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Slightly used Pipe from 1" to 12" with new  
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We can save you money  
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**FREIGHT CARS**      **PASSENGER COACHES**  
S. H. Std. Car Trucks for Logging  
LARGEST STOCK REBUILT EQUIPMENT IN U. S.

GEORGE M. NEWHALL ENGINEERING CO. *Rolling Mills—Hyde, Clearfield Co., Pa.*  
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Manufacturers of **LIGHT STEEL RAILS**  
12, 16, 20, 25, 30, 35, 40 and 45-lb. SECTIONS  
SPLICING BARS, TRACK BOLTS AND SPIKES, FROGS AND SWITCHES  
RELAYING STEEL RAILS  
IN ALL SECTIONS FOR IMMEDIATE SHIPMENT FROM STOCK

**Locomotives**  
**Four wheel type**  
40 tons; 17" x 24"; 160 lbs. pressure  
Overhauled      **E. H. WILSON & COMPANY**  
Modern      *ARCADE BUILDING*  
**CONTRACTORS & RAILWAY EQUIPMENT**  
QUARRY & BRICK PLANT MACHINERY  
OUR SQUARE DEALINGS WILL WARRANT YOUR CONTINUED PATRONAGE  
**& WILLIAMS** *BELL BLOCK*  
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One 10-ton gasoline macadam roller, latest type, standard make, nearly new. Will sell at a low price. Write

**COOPER CONTRACTING COMPANY**  
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**Tractor-Roller and Wagons  
FOR SALE**

A Buffalo Steam Ten-Ton Tractor and Twelve Five-Ton Wagons for use with it. Used about three months.

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**CONCRETE MIXERS**  
One No. 14 Smith Mixer with steam engine only, mtd. on steel skids, with batch charging hopper, power tilting device, auto. tipping device. Capacity, 46 cu. ft. dry, 31 cu. ft. wet. Strictly first-class condition, just as good as new. In Cincinnati stock.

My MONTHLY STOCK LIST contains some exceptional bargains. Write for same.

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**FOR SALE**

Macadam Roller, recently overhauled. A-1 condition. Write

**HAINES BROTHERS**  
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**A. S. C. E. Sections**  
**LIGHT STEEL RAILS**  
PROMPT DELIVERY.  
8, 12, 16, 20, 25, 30, 35, 40 pounds per yard.  
With Splices and Spikes.  
**UNITED STATES RAIL CO.**  
Manufacturers, *Cumberland, Md.*  
Certificates of Inspection by Hildreth & Co., Inspecting Engineers of New York City, assuring absolutely first quality, furnished free of cost.

**E. C. SHERWOOD**  
48 CHURCH ST., NEW YORK  
**STEEL RAILS**  
60-67s-70s-74s with angle bars  
Send your inquiries.

**RELAYING RAILS FOR SALE**  
500 Tons 80-lb. Rails.  
500 Tons 90-lb. Rails.  
Several Locomotives and Cars.

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Commonwealth Bldg.      PITTSBURGH, PA.

**RAILS  
AND  
ACCESSORIES**  
**NATIONAL STEEL RAIL CO.**  
I. H. COHN, Pres. and Genl. Mgr.  
1030-32 Pierce Bldg.      ST. LOUIS, MO.

**Hoisting Engine, Mixer and  
Derrick Car For Sale**

One 7" x 10" American D. C. D. Holster with swinging gear and boiler, complete, and one No. 2 Milwaukee Concrete Mixer with 10 H. P. gasoline engine on trucks with loading skip, both good as new. Price \$800 each, f. o. b. San Antonio, Texas.

Five-ton Dobbie Traveling Derrick Car, 50-foot boom, in good condition. Price \$400, f. o. b. Fort Worth, Texas.

**MCKENZIE CONSTRUCTION CO.**  
San Antonio, Texas

**Passenger Coaches**  
*Released by Pennsylvania R. R.*  
**HENRY LEVIS & CO.**

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**Relaying Steel Rails**

35-lb., 40-lb., 56-lb., 60-lb., 70-lb., 80-lb., 85-lb. and Angle Bars to lay same

Advantageously located for Southern delivery; also other weights of RELAYING RAILS, in different sections of the country; and NEW STEEL RAILS, all weights. We handle first-class Relaying Rails and do not select them from scrap. Let us know your requirements. We buy Rails fit to relay, and pay spot cash.

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Low Prices on New FROGS and SWITCHES.

**RELAYING RAILS**

56 to 80-lb. sections, located in different parts of the country, and all equipped with angle bars to fit. Ready for prompt shipment. New or relaying light rails at low prices. New frogs, switches, bolts, spikes, etc.

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**RELAYING RAILS**

20, 25, 30, 35, 40, 45, 50, 56, 60, 65, 70, 80, 85, 90 and 100 lb. all with Fish Plates.

**NEW RAILS**

8, 12, 16, 20, 25, 30, 35, 40, 45, 50 lb. at manufacturer's prices.

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Splice Bars for any section rail in stock. Frogs, Switches, Bolts, Nuts, Spikes, and all Track Accessories.

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We have at our shops in Birmingham, thoroughly overhauled, 48 standard and 3 gauge Locomotives.

Also 10 Marion and Theew Shovels.

Also, 3000 tons of Relaying Rails, all weights. Write us for prices and terms.

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About 800 tons, 67 lbs. per yard, with plates.

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All Weights

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One Steel Stack, S. S., 8' x 100'.

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Largest Stock Locomotives  
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Only AIR DUMP CAR under absolute control of operator. Can be brought back to upright position, after passing center of gravity, before entire contents of car have been unloaded. This admits of equal distribution of material on both sides of track. Write.

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Frogs  
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SWITCH STANDS



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Heavier Sections Made to Order  
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1 Contractor's outfit; Wagons, Slip Scrapers, Dump Cars, 36" gauge.  
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1 Hoisting Engine.  
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1 standard gauge 17x24 Baldwin.  
1 36" gauge 9x14 Saddle-Tank Vulcan.  
1 36" gauge 9x14 Saddle-Tank Porter.  
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1 36-ton Heisler Geared Locomotive, built in 1913, in first-class condition.  
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Located on New Orleans, Mobile & Chicago Railroad.  
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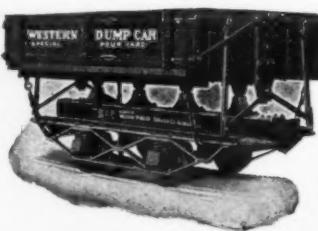
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RAILROAD BRIDGES and EQUIPMENT  
HENRY LEVIS & COMPANY

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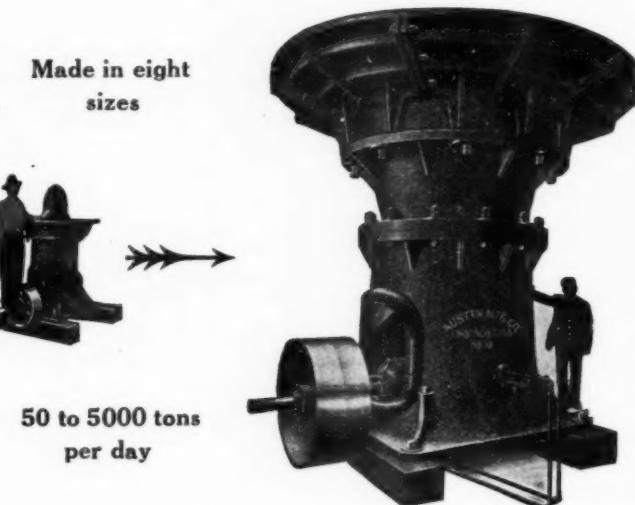
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Manufacturers of  
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Made in eight  
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50 to 5000 tons  
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Plans and Specifications submitted and  
expert advice free on any problems in-  
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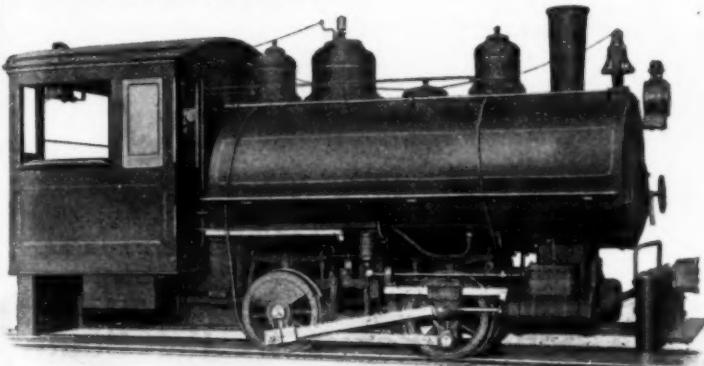
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We Manufacture—Road and Elevating Graders, Scarifiers, Road Rollers,  
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The illustration shows a standard Baldwin "dinkie"—an 18-ton engine with heavy frames, a large boiler, ample water and fuel capacity and high-class equipment: **a locomotive that can be depended upon to stay on the job.**

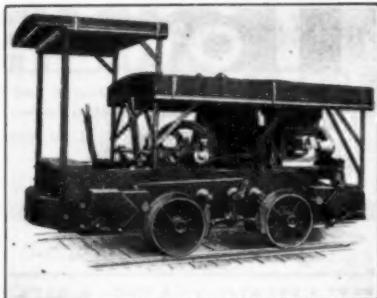
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in Factory Yards, Lumber Plants, Mines, Road Work and Excavation Work of all kinds there is an unsurpassed saving with the

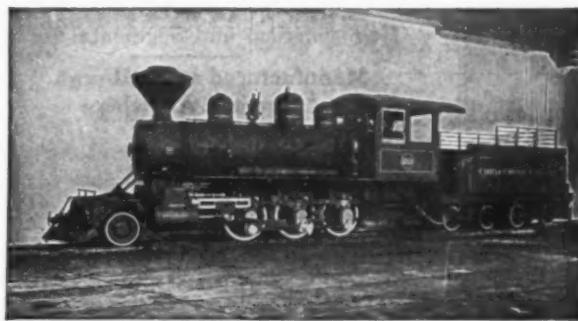
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A few of their advantages: (1) Simplicity—(2) Durability—(3) Economy—(4) Efficiency—(5) Low price and Upkeep. Built in any gauge—20" to standard. Every bit of mechanism on the Plymouth is a proven success.

*Illustrated catalog with full details  
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J. D. FATE COMPANY, Plymouth, Ohio

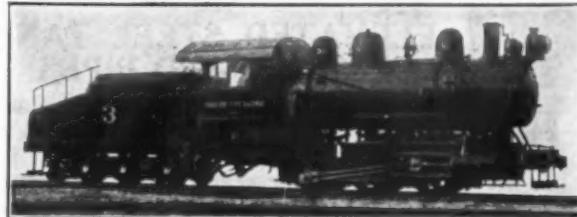
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**STEAM AND COMPRESSED AIR**  
For all Gauges of Track and Every Variety of Service, including Mine, Furnace, Lumber, Plantation, Industrial and Contractors' use. Locomotives 36" and 56½" Gauge on Hand for Immediate Delivery.

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**CALDWELL TANKS**

are made from the genuine Louisiana Swamp Cypress, which seems to have been specially designed by nature for tank purposes, as it resists wear and decay amazingly. The use of this wood combined with our scientific hooping and skilled construction causes the Caldwell tanks to give a lifetime of high-class service with a minimum of attention and repair.

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Our Engines and Boilers are now in use in many of the Gineries, Oil Mills, Saw  
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Complete Industrial Railway Equipment  
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Unequaled for railroad, factory and all  
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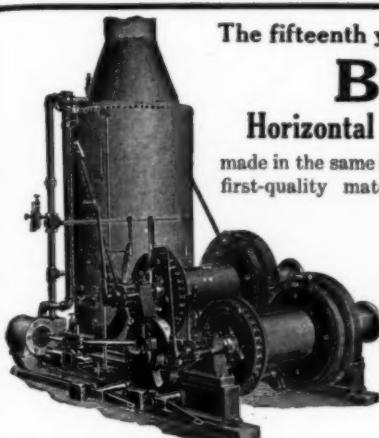
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Horizontal Type Hoisting Engine  
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It is hard to improve on correct  
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Main Office and Works :  
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For Contractors, Bridge Builders, Dredging,  
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### Patent Double Platform Hoists

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Single and Double Drum Hoists

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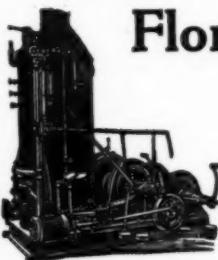
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STEAM AND ELECTRIC

For Contractors, Bridge Building, Dredg-  
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Special Hoists for  
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STEAM Up to 1000 H. P. ELECTRIC Any Size

Many drawings and  
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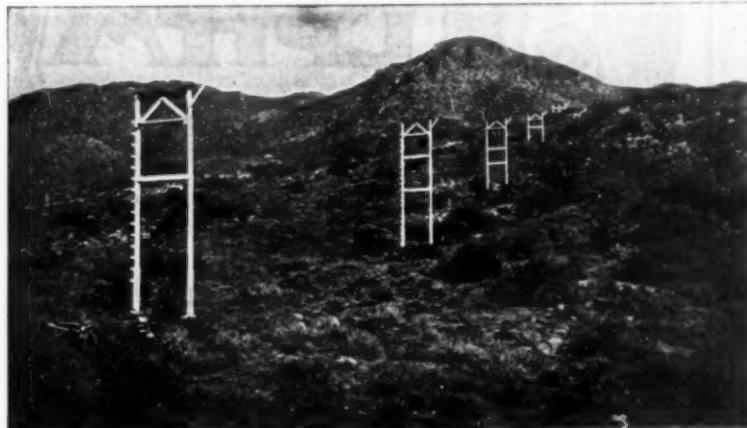
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Electric Haulage Hoist built for E. H. Harriman Estate.

You can have from us, if desired, a firm bid for the Lawson Automatic Tramway,

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It is the invariable practice of other builders to make a price delivered f. o. b. cars. The cost of erection is always at the owner's risk, under per diem supervision furnished by the builders and based only on an estimate. While this is just and equitable, the average buyer nevertheless generally prefers to know absolutely what his tramway will cost him complete and ready to run. Now he can know. Why do we have this advantage.



ACROSS THE DESERT

information which must be furnished by the purchaser. All this will be brought out by correspondence. In your original inquiry merely give us general data as to length, capacity and grade of line and kind of material handled.

Bulletins A and B describing the Automatic Tramway will be sent on request, and several other Bulletins are in preparation.

Very respectfully,

**AMBURSEN COMPANY,**

(Tramway Department)

**61 Broadway, New York**

The AmburSEN Company is not a manufacturer of wire rope, but is organized as Engineer-Constructors. For ten years we have handled heavy construction amounting to many millions of dollars, in busy times having as high as 3000 men in the field.

The officers of the Company, in various capacities, have had a construction experience of from twenty to thirty years. We are therefore familiar with every detail of construction economy, and are organized and equipped to carry out work of this character on a contract basis.

There is not sufficient space in this advertisement to set forth the character of the information which must be furnished by the purchaser. All this will be brought out by correspondence. In your original inquiry merely give us general data as to length, capacity and grade of line and kind of material handled.

Bulletins A and B describing the Automatic Tramway will be sent on request, and several other Bulletins are in preparation.

Very respectfully,

**AMBURSEN COMPANY,**

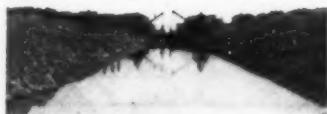
(Tramway Department)

**61 Broadway, New York**



Water causes no delay or expense when canals are dug by

## HAYWARD SKID EXCAVATORS



THESE machines operate from the high level and back away from the excavation as the work progresses. They can be used for digging trenches through soft swampy land as well as through dry clay or loam.

The battery of four Hayward Skid Excavators operating Orange Peel Buckets shown above is commencing work on the first section of a canal.

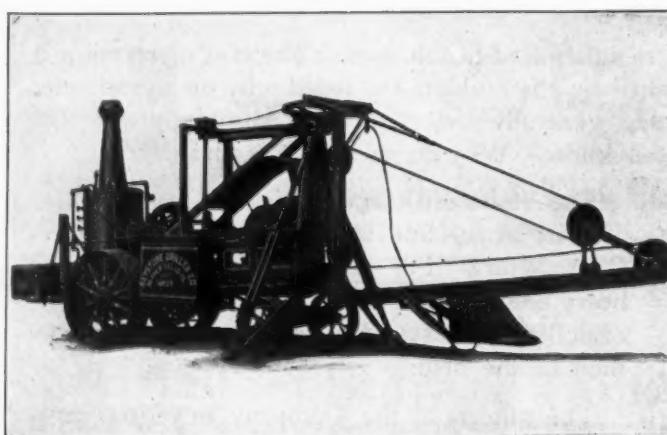
These machines were worked in pairs and encountered all classes of material, including large and small stumps; the latter were removed by the 1½ cubic yard Buckets without blasting. The small view above shows a finished section of the canal after the water was run in.

**When you have digging or material handling work of any character, we will be glad to advise you.**

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**A Light, General Utility Steam Shovel for Contractors' Use**



The cut shows machine with Skimmer Scoop for street grading and road work. It will dig a crust that would otherwise have to be broken by a rotoer. Leaves a flat, finished surface for paving. Operated by two men. Capacity 150 to 300 wagon-loads in ten hours.

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This portable machine can be used with three kinds of scoops—adapting it to practically every grading and excavating job in the contracting field; the Skimmer Scoop for street grading; the Dipper Scoop for side hill embankments; the Ditcher Scoop for trenches, irrigation ditches, etc.

It is light—only 8 tons; portable—moving on its own power anywhere a dump wagon can go, and it is readily loaded on a freight car for shipment.

It saves both in first cost and operation over the heavier types of steam shovels. The price is surprisingly low.

We have photos of the Keystone on jobs similar to yours. Write for them and for descriptive matter.

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Engravings for the Printer,  
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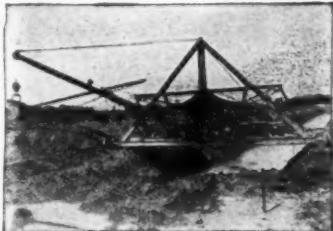
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The progressive and successful contractor is always open for more efficient equipment. He wants a machine that will do more work in less time and at less operating and maintenance cost. When you want such a dredge these qualities will be found in

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Invaluable for ditching, drainage and irrigation work, both land and water use. Can be dismantled, handled on wagons over country roads, reassembled at small cost and used to advantage on small jobs. Gasoline Engine driven. Operating crew 3 men. If you want a dredge now or in the near future, let us send you full details.

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All Sizes, Steel or Wood Hulls. Vertical or Bank Spuds. Prompt Shipment. Send for New Catalog.

**AMERICAN STEEL DREDGE CO.**

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Reg. U.S. Pat. Off.

Working the swamp land—reclaiming marsh that won't support a horse's weight.

### Drainage or Irrigation

A Baby Caterpillar, with 20-inch track, bears down upon the soil only one-third as hard as you do when you walk.

The 60-h. p. size, even with standard track, has less pressure to the square inch than your shoe has, and only a third that of the horse's hoof.

Both machines are useful in swamp land—both fully tested and sold under guarantee as to power, material and workmanship.

Why not dig your drainage ditches, grade your roads and small levees, tear up dirt for your big levees, and clean your canals, with the Caterpillar?

It will do a lot of work that no other tractor can. It will do their every-day work better besides.

Special folders on soft-ground work—special contractor's bulletin No. CG 93—sent *quick* to those who ask.

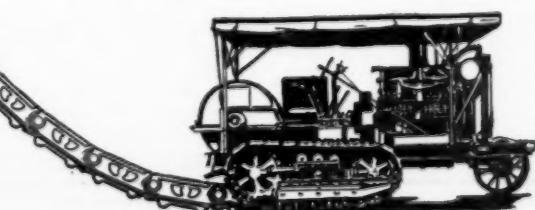
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CG 93



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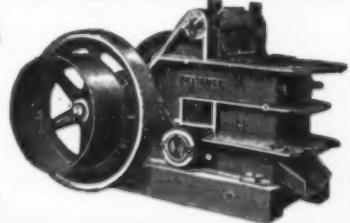


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Are fully described in our new CATALOG, which we send

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**Universal Road Machinery Co.**  
KINGSTON, N. Y.  
ROCHESTER BOSTON



## Monigan Drag Line Excavators

### STEAM AND GASOLINE POWER



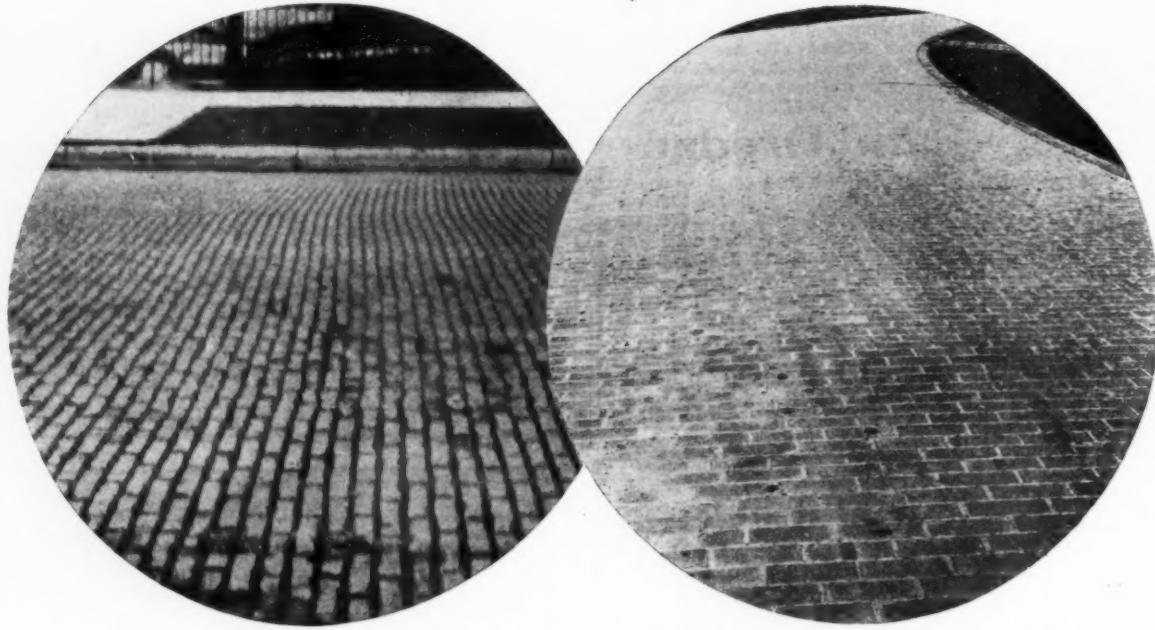
The excavator shown in this cut can be placed on the work at less cost than any other excavating outfit. Crew for operating machine consists of only two men. The excavator is mounted on traction wheels provided with self-propelling mechanism. Boom is 40 feet long. One cubic yard bucket. We will give you, upon request, full information regarding capacity, cost of operation, etc.

We build excavators with booms from 40 to 125 ft. long and buckets from one to three cubic yard capacities.

Write for Excavator Catalog

**MONIGAN MACHINE CO., 2022 Carroll Ave., CHICAGO**

Agent—P. B. ENGH  
341 Pacific Electric Bldg., Los Angeles, Cal.  
704 Hooker & Lat Bldg., San Francisco, Cal.  
Everett Bradt & Wright, Houston, Tex.  
Everett Bradt & Wright, Dallas, Tex.



Broken down, poorly laid Brick

Properly Laid Dunn Wire-Cut-Lug Brick

## Here is one advantage of the Engineering Service you get with

**DUNN Wire-Cut-Lug BRICK**

Observe both pictures above—study them well.

In the left-hand photo you see a broken-down, unsanitary brick pavement. The *filler* has pounded out. There has resulted a series of miniature hills and hollows, over which traffic rattles with great noise. Obnoxious dirt of all kinds gets into the worn joints. It is all due to *poor method of laying*.

Observe the right-hand photo—a Wire-Cut-Lug Brick Pavement. Filled with cement grout, it has already withstood a year of heavy traffic. See the

perfect condition of the joints. Here was the *correct method* of laying.

Briefly, when you specify Wire-Cut-Lug Brick, you get free Engineering Service, which insures your getting the *correct method* of laying your brick pavement. Our Engineers will visit your job gratis and point out where any work is being improperly done.

In other words, you will never get a pavement like the left-hand photo with Wire-Cut-Lug Brick.

As to the brick itself—the independent, competing licensees listed below can supply you.

## Dunn Wire-Cut-Lug Brick Company CONNEAUT, OHIO

### LICENSEES:

Corry Brick & Tile Company, Corry, Pa.  
One plant at Corry, Pa.  
United Brick Company, Greensburg, Pa.  
One plant at Conneaut, Ohio.  
Sterling Brick Company, Olean, N. Y.  
One plant at Olean, N. Y.  
Reynoldsburg Brick & Tile Company,  
Reynoldsburg, Pa.  
One plant at Reynoldsburg, Pa.  
Danville Brick Company, Danville, Ill.  
One plant at Danville, Ill.  
Clinton Paving Brick Co., Clinton, Ind.  
One plant at Clinton, Ind.  
Alton Brick Company, Alton, Ill.  
One plant at Alton, Ill.  
Deckman-Duty Brick Co., Cleveland, Ohio.  
One plant at Cleveland, Ohio.  
One plant at Carrollton, Ohio.  
One plant at Malvern, Ohio.

Tuna Valley Pressed Brick Co., Bradford, Pa.  
One plant at Bradford, Pa.  
Foster Paving Block Co., Bradford, Pa.  
One plant at Bradford, Pa.  
One plant at Youngsville, Pa.  
One plant at Binghamton, N. Y.  
Metropolitan Paving Brick Co., Canton, Ohio.  
Four plants at Canton, Ohio.  
One plant at Willow, Ohio.  
Bessemer Limestone Co., Youngstown, Ohio.  
Three plants at Bessemer, Pa.  
Peebles Paving Brick Co., Portsmouth, Ohio.  
Two plants at Portsmouth, Ohio.  
One plant at Firebrick, Ky.  
The Murphysboro Paving Brick Co.,  
Murphysboro, Ill.  
Southern Clay Mfg. Co., Chattanooga, Tenn.  
One plant at Robbins, Tenn.  
One plant at Coaldale, Ala.

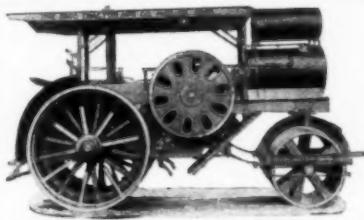
McAvoy Vitrified Brick Co., Philadelphia, Pa.  
One plant at Perkiomen Junction, Pa.  
Windsor Brick Company, Akron, Ohio.  
One plant at Akron, Ohio.  
Hocking Valley Brick Co., Columbus, Ohio.  
One plant at Logan, Ohio.  
Veedersburg Paver Co., Veedersburg, Ind.  
One plant at Veedersburg, Ind.  
Springfield Paving Brick Co., Springfield, Ill.  
One plant at Springfield, Ill.  
Terre Haute Vitrified Brick Co.,  
Terre Haute, Ind.  
One plant at Terre Haute, Ind.  
Albion Vitrified Brick Co., Albion, Ill.  
Alliance Clay Products Co., Alliance, Ohio.  
Westport Paving Brick Co., Baltimore, Md.  
Plant at Westport, Baltimore.  
Mack Manufacturing Co.,  
New Cumberland, W. Va.  
Four plants at New Cumberland, W. Va.

# PAVING BRICK

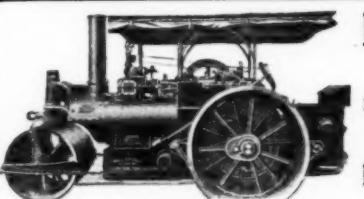
WIRE CUT LUG AND DUNN PATENT  
REPRESSSED

Southern Clay Manufacturing Co.  
CHATTANOOGA, TENN.

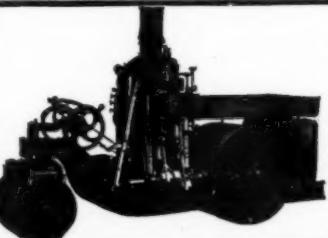
Three Plants Capacity, 30,000,000



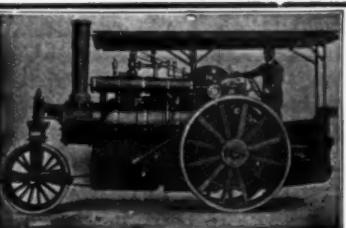
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Gasoline Kerosene  
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BUILT FOR SERVICE  
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2½ to 20 tons.  
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for LONG SERVICE  
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The Kelly-Springfield  
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Capacity 1000 yds. 2" top or  
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Make test before  
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THE F. D. CUMMER & SON CO. CLEVELAND, O.



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Standard Asphalt Block Filler.

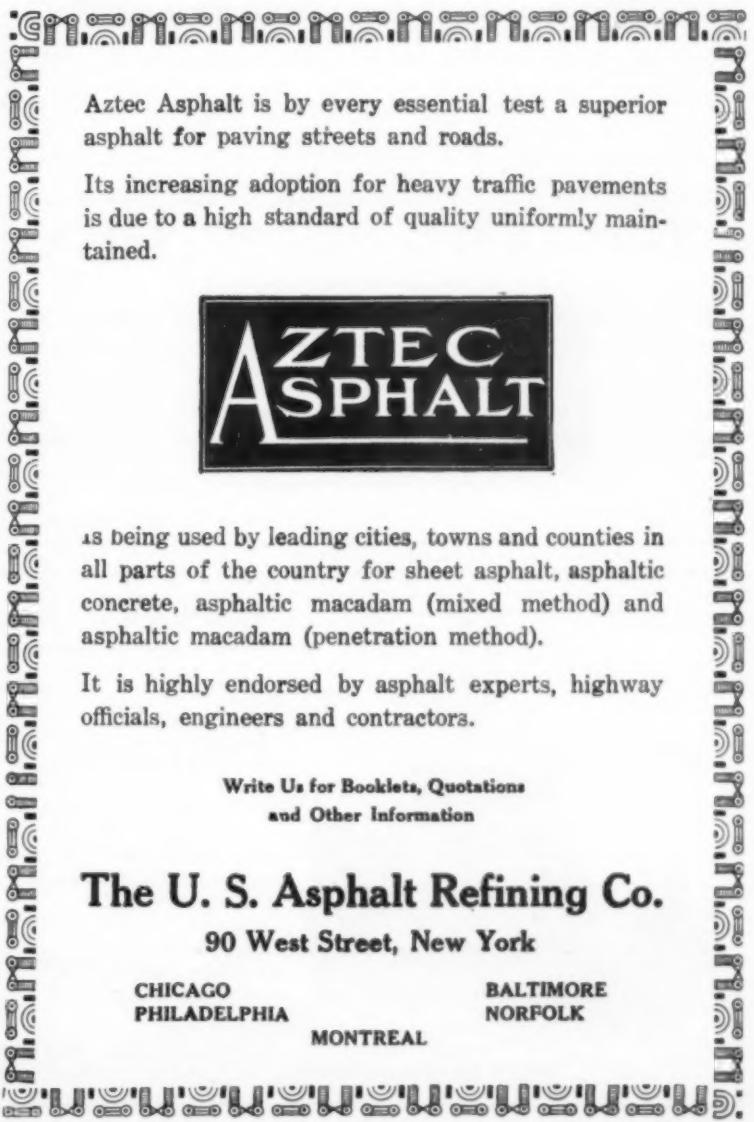
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Baltimore, Md.



Aztec Asphalt is by every essential test a superior  
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ASPHALT

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asphaltic macadam (penetration method).

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**The U. S. Asphalt Refining Co.**  
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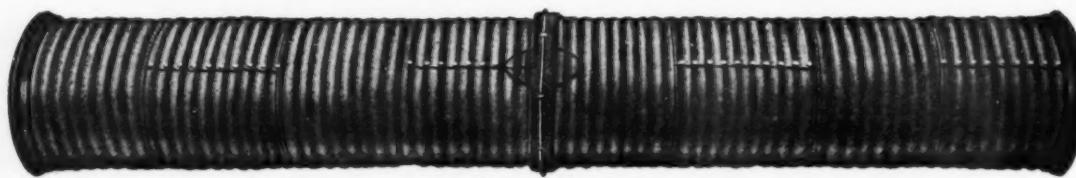
BALTIMORE  
NORFOLK

MONTRÉAL

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QUALITY OF MATERIAL USED IS THE FINEST AND PUREST KNOWN  
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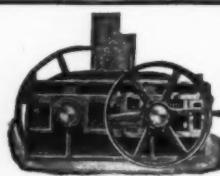
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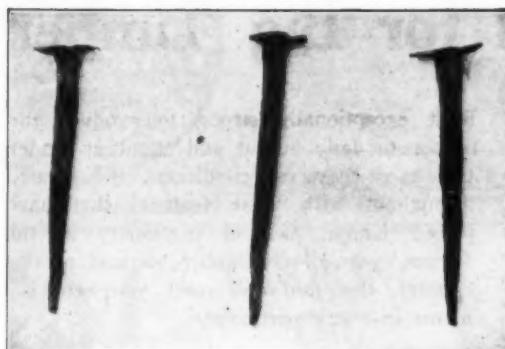
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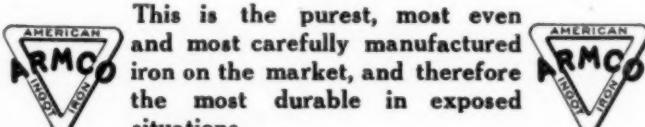
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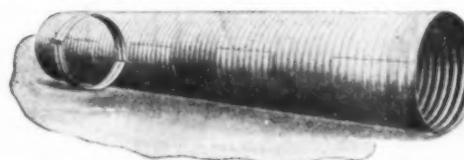
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in all the details of construction are worthy of this unequalled material. This is the most practical and reliable form of highway and railroad drainage.

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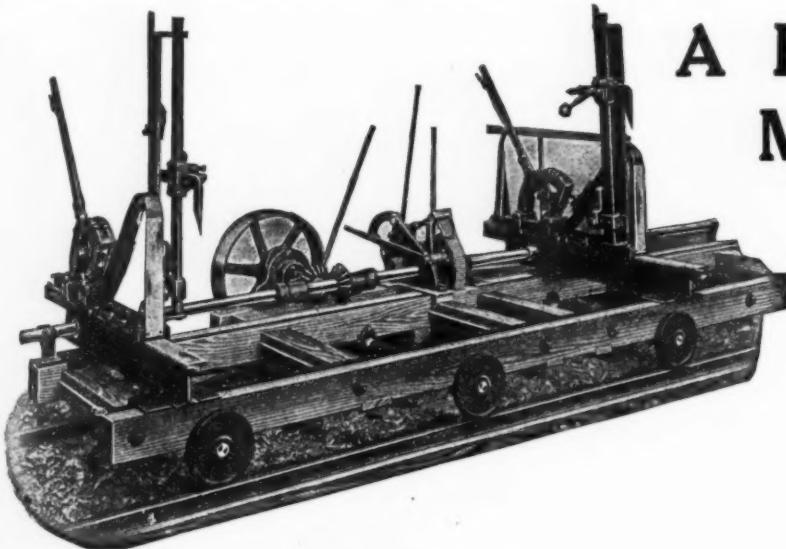


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And our best efforts are given to improving our Culverts and keeping them just a little ahead of the other fellow's.  
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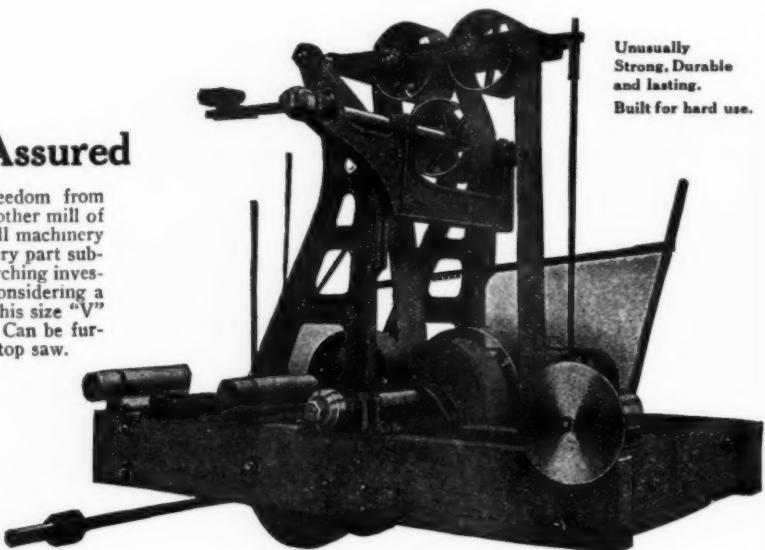
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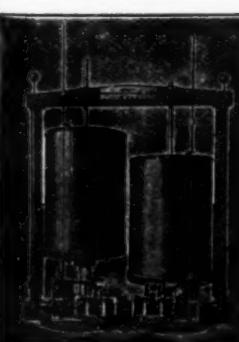
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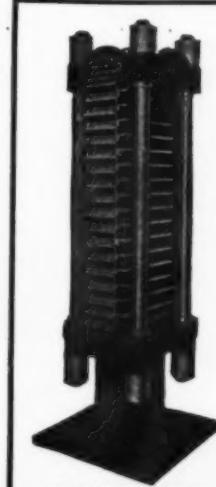
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The marvel of the day, commanding the world's attention to a greater extent probably than the development of any other section has ever received, is the amazing material unbuilding of the South. Everywhere men in every walk of life are beginning to study the South. They are coming to realize something of its matchless resources, to know something of the opportunities which it presents for manufacturing and for mining operations, for city building activities, for the utilization on a large scale of the cut-over timber lands and the reclaimable wet lands of the South.

With a view to presenting to the world from week to week the resources and the growth and the opportunities which are offered for all of these things, some of the leading railroads of the South and Southwest, some of the great public service corporations intimately identified with the upbuilding of this section and some of its progressive towns and cities from week to week tell the story of what they have to offer to the manufacturer, to the investor, to the merchant, to the pleasure-seeker, to the health-seeker. Study the pages that follow, and if you are at all interested in knowing about the South and its opportunities, its resources and its progress, if you want to keep in touch with that section which is attracting greater attention than any other part of America, get in communication with the organizations whose advertisements are to be found in the following pages.

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#### Atlanta & West Point Railroad

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Offers excellent locations for

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Available Factory Sites. Abundance of Raw Material and Good Transportation Facilities

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Abundant supplies of coal, coke, iron, timber and other raw materials lie in the regions of Georgia and Alabama which are traversed by the

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Cheap electric power, numerous undeveloped water-powers, good home markets and excellent shipping facilities. Therefore, manufacturing conditions are ideal.

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Everyone who would like a Southern home or investment should have a copy of one or all of these books. For free copies address

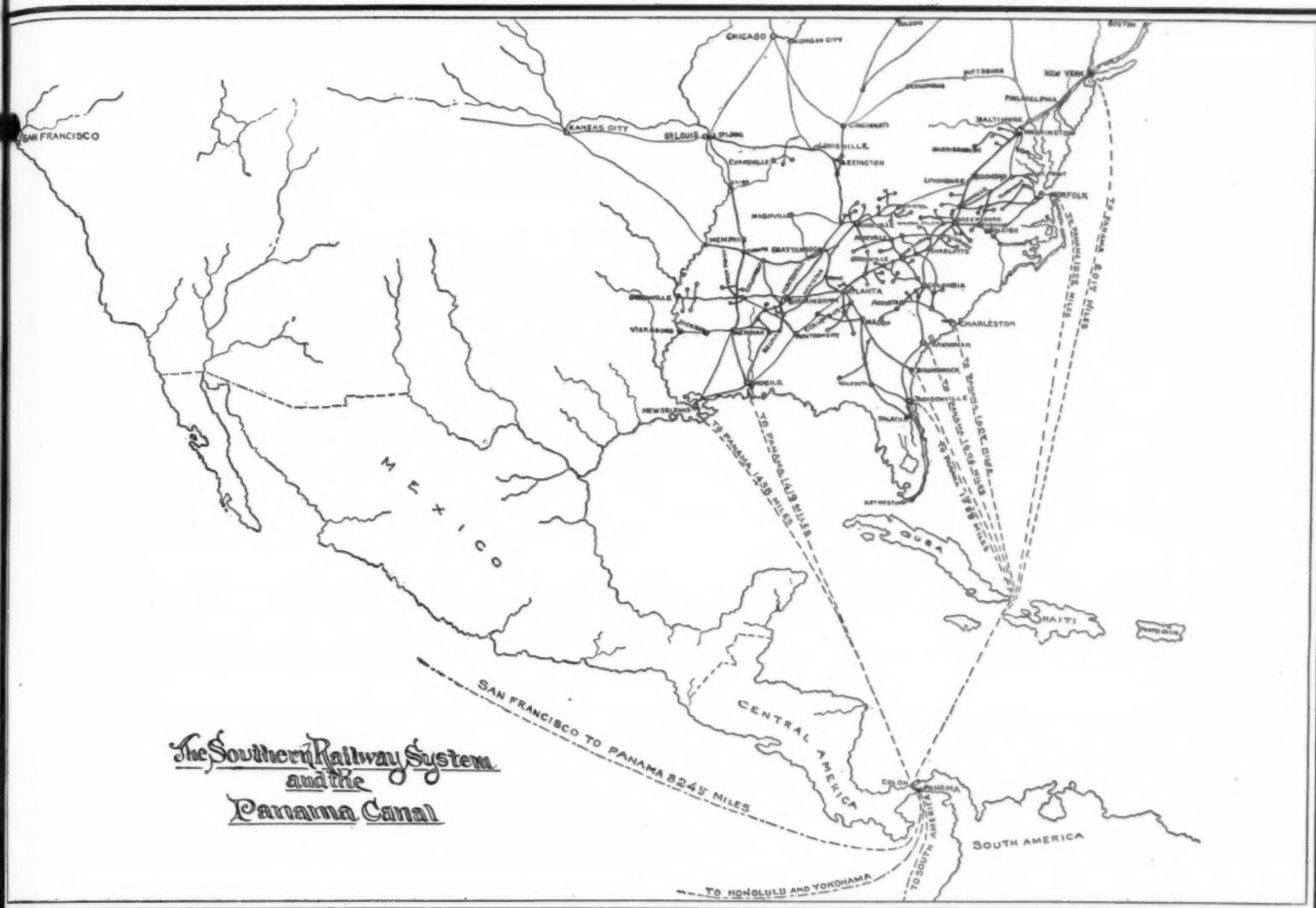
**J. C. CLAIR**

Industrial and Immigration Commissioner

**ILLINOIS CENTRAL RAILROAD COMPANY**

135 East 11th Place, CHICAGO, ILL.

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The South American Agent of Southern Railway Company will help you find markets for your products in Central and South America.

If you want to reduce your manufacturing costs, establish a distributing warehouse, or locate in America's most charming home section, let us have an industrial agent call on you and tell you, free of cost, about the advantages of the South and Southern Railway service.

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Southern Indiana

Alabama  
Mississippi  
Tennessee  
Kentucky  
Southern Illinois

**M. V. RICHARDS**  
Industrial and Agricultural Commissioner  
Room 52 Washington, D. C.

Southern Railway  
Mobile & Ohio Railroad  
Georgia Southern & Fla. Ry.  
Virginia & Southwestern Ry.  
Southern Ry. in Mississippi

# Cheap Industrial Power

## Natural Gas from 4 to 10 Cents per 1000 cu. ft.

## In West Virginia

West Virginia by reason of its vast supply of natural gas offers to the manufacturer in every class power that is unsurpassed either in extent or cheapness, the cost for industrial purposes ranging from 4 to 10 cents per 1000 cubic feet.

To those who manufacture products from limestone, clay and glass sand, which abound in the State in large quantities and of unusual purity, more than ordinary opportunities are offered.

While those who are consumers of great quantities of power and who draw their raw materials from other sections will find it more economical to bring these raw materials to this source of cheap power.

As an illustration of this latter fact:

*A large industry in the gas belt of West Virginia making a product from raw materials not existing in the State found it necessary to build another plant. Before doing so, however, every section of the country was studied to determine the best possible location. The result of this investigation was to erect the new plant within 8 miles of the old one.*

It is not as if this natural gas were located in an out of the way place, for it exists in a section that is surrounded on all sides by great industrial activities and large consuming markets.

Moreover, the Baltimore & Ohio, which penetrates through the heart of the natural gas belt, provides, with its modern and thorough equipment, shipping facilities ample in every respect to meet all demands.

*The Baltimore & Ohio Railroad, through its Industrial and Agricultural Departments, will gladly furnish detailed information to those desiring to investigate the natural gas and other resources of West Virginia.*

## Baltimore & Ohio Railroad

W. W. WOOD, General Industrial Agent

Baltimore, Md.

# Industries on the Clinchfield Enjoy Wide Distribution Advantages

Every manufacturer and business man, and even the farmer and fruit-grower, in these days, in the selection of a location for his undertaking, pays especial attention to shipping facilities, and seeks that point which will enable him to reach the country's largest markets in every direction.

He realizes that if his distribution is confined to one or two large markets, the condition of his business is but a reflection of the condition of these several markets.

But if his location is such that he can reach out into markets in every direction, he is not subject to the fluctuating conditions of one or two of them, as he always has others to which he can divert his products.

As a result, he is enabled to secure the best possible prices for his wares, and at the same time have a broad field for the expansion of his business.

In this connection, consider what the Clinchfield has to offer those who locate along its lines.

Through its connection with the Louisville & Nashville, and the Chesapeake & Ohio, the markets of the great Central West are reached.

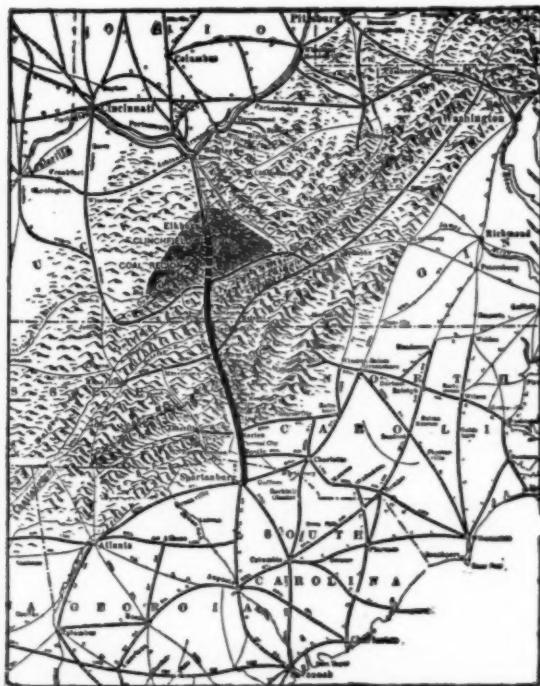
The Clinchfield crosses both the Norfolk & Western and the Southern Railways, which give outlets to the markets of the North and East on the one hand, and the South and Southwest on the other hand.

At its Southern end the Clinchfield connects with the Seaboard Air Line, the Atlantic Coast Line and the Southern Railway, and through them with the other principal railroads of the South, enabling it to thoroughly cover this growing section.

The Clinchfield has also direct connections with the important Southern Seaports, and through them with the leading markets of the world.

Those located along the Clinchfield route who take advantage of the splendid openings available industrially, commercially and agriculturally, have therefore facilities for the broadest possible distribution.

And no section of the country contains a greater wealth of resources, combined with complete facilities for development.



*Write for a copy of "Land of Opportunities," which illustrates and describes the Clinchfield territory.*

## Carolina, Clinchfield & Ohio Rwy.

**"THE ROAD OF OPPORTUNITY"**

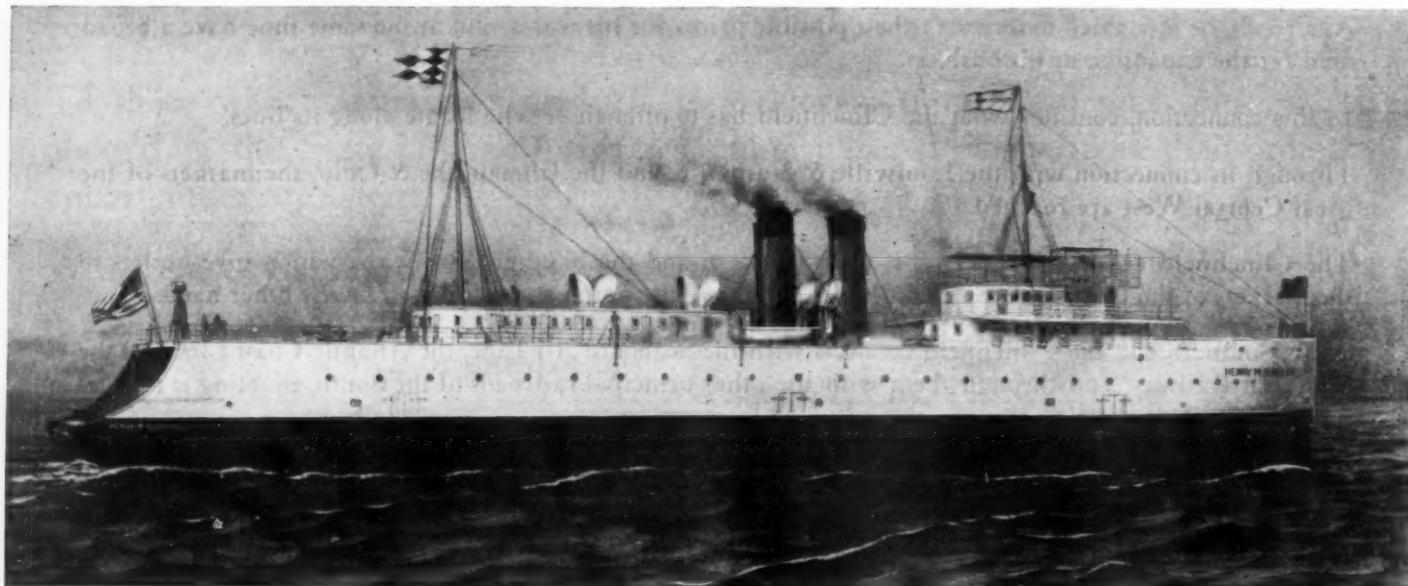
R. F. BREWER, Industrial Agent

Johnson City, Tenn.

# All-Rail Route to Cuba Via Key West

When Henry M. Flagler, the founder of the Florida East Coast Railway, dreamed of the wonderful possibilities of the East Coast of Florida, he conceived broad and daring plans for carrying these dreams to fulfillment.

Prominently among his plans was one to build an all-rail route to Cuba. The last link of this plan has just been completed by his successors in building the big ferryboat "Henry M. Flagler," to transport freight cars from Key West to Havana, and provide for the interchange of products of the United States and Cuba by a direct all-rail route.



THE "HENRY M. FLAGLER," RAILROAD FERRYBOAT, KEY WEST-HAVANA.

Nine of the leading railroads of the South are co-operating for the establishment of a fast freight service from all parts of the United States to Cuba via Key West, this service being known as the

## "CUBAN ALL-RAIL ROUTE"

This magnificent steamer, illustrated here, has accommodations for thirty of the largest refrigerator cars, which will be carried on four sets of standard-gauge track. In addition, it contains three cargo holds capable of being loaded directly either from the cars or through cargo ports at the side of the vessel. The distance from Key West to Havana, 100 miles, will be covered by this ferry steamer in eight hours, as required by schedule.

*Any information desired regarding this service and the advantages it offers for quick and direct shipment to Cuba will be gladly furnished.*

**FLORIDA EAST COAST RAILWAY**  
(FLAGLER SYSTEM)

J. E. INGRAHAM, Vice-President

ST. AUGUSTINE, FLA.

# HOMESEEKERS' RATES FOR 1915

## Seaboard Air Line Railway

The Progressive Railway of the South

Announces the establishment of attractive Round-Trip Homeseekers' Rates to Progressive Florida.

**FROM**

**WASHINGTON, D. C.**

January 12th, February 9th and  
FIRST and THIRD TUESDAYS  
in each succeeding month.

**CINCINNATI, OHIO**

January 5th and 19th and  
FIRST and THIRD TUESDAYS  
in each succeeding month.

**TO  
NORTH FLORIDA**

Lake City	\$22.65	\$27.10
Quincy	24.55	25.60
Tallahassee	24.45	25.60

**TICKETS GOOD FOR 21 DAYS**

**THE BEAUTIFUL LAKE COUNTRY**

Ocala	25.00	30.00
Orlando	25.00	30.00
Oviedo	25.00	30.00
Leesburg	25.00	30.00
Tavares	25.00	30.00

**POLK COUNTY HIGHLANDS**

Bartow	25.00	30.00
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**PEERLESS PINELLAS**

St. Petersburg, Clearwater, Tarpon Springs, Elfers via Tampa	25.00	30.00
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**THE FAMOUS MANATEE COUNTY**

Palmetto, Parrish, Terra Ceia Manatee, Bradenton, Bee Ridge Oneco, Sarasota Venice	25.00	30.00
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**TAMPA, PLANT CITY**

25.00	30.00
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These tickets will be on sale at Washington, D. C., January 12th and February 9th, and two dates in each month thereafter. At Cincinnati on January 5th and 19th, and two dates in each succeeding month—the FIRST and THIRD TUESDAYS—good for 21 days. Stopovers south of Jacksonville going and returning.

The rates and service from The Nation's Capital, WASHINGTON, offers splendid opportunity to the people from the Eastern States to make a Florida trip cheaply and comfortably.

The CINCINNATI rates offer a similar opportunity to the people of the Central States.

You can find attractive openings in the progressive State of Florida. We shall be glad to answer your inquiry for complete information.

## SEABOARD AIR LINE RAILWAY

The Progressive Railway of the South

J. A. PRIDE, General Industrial Agent

NORFOLK, VIRGINIA

# CLASSIFIED INDEX OF ADVERTISEMENTS.

<b>Abrasive Materials.</b>	<b>Belt.</b>	<b>Bridges.</b>	<b>Castings.</b>	
Carborundum Co., Niagara Falls, N. Y. Vitrified Wheel Co., Westfield, Mass.	Bartlett & Snow Co., C. O., Cleveland, O. Calwell & Sons Co., H. W., Chicago, Ill. Jeffery Mfg. Co., Columbus, O. Link-Belt Co., Nicetown, (Philadelphia) Pa.	Cunningham Construction Co., Shreveport, La. Luten, Daniel B., Indianapolis, Ind. Requa Co., O. W., Charlotte, N. C. Turner, O. A. P., Minneapolis, Minn.	Crucible Steel Castings Co., Lansdowne, Pa. Hoffman & Co., Inc., R. C., Baltimore, Md. Phoenix Iron Works Co., Meadville, Pa. Riverside Steel Casting Co., Newark, N. J.	
<b>Accountants.</b>	<b>Belt Cement.</b>	<b>Bridges.</b>	<b>Ceilings.</b>	
Baltimore Audit Co., Baltimore, Md.	Graton & Knight Mfg. Co., Worcester, Mass.	Scherzer Rolling Lift Bridge Co., Chicago, Ill.	Edwards Manufacturing Co., Cincinnati, O. Heighley Metal Cast. & Mfg. Co., S., Pittsburgh, Pa.	
<b>Accumulator. (Hydraulic.)</b>	<b>Belt Conveyors.</b>	<b>Bridges.</b>	<b>Cement.</b>	
The French Oil Mill Mch. Co., Piqua, Ohio	Jeffrey Mfg. Co., Columbus, O.	Scherzer Rolling Lift Bridge Co., Chicago, Ill.	Clinchfield Portland Cement Co., Kingsport, Tenn. Dixie Portland Cement Co., Chattanooga, Tenn. Hartrum & Cement Co., Wm. G., Philadelphia, Pa. Kirkpatrick Sand & Cement Co., Birmingham, Ala. Kosmos Portland Cement Co., Inc., Louisville, Ky. Lehigh Portland Cement Co., Allentown, Pa. Southern States Portland Cement Co., Rockmart, Ga. Standard Portland Cement Co., Leeds, Ala.	
<b>Acetylene Service.</b>	<b>Belt Dressing.</b>	<b>Bridges. (Concrete.)</b>	<b>Cement Machinery.</b>	
Prest-O-Lite Co., Inc., The, Indianapolis, Ind.	Dixon Crucible Co., Joseph, Jersey City, N. J. Gandy Belting Co., Baltimore, Md. Graton & Knight Mfg. Co., Worcester, Mass.	Cunningham Construction Co., Shreveport, La. Luten, Daniel B., Indianapolis, Ind. Requa Co., O. W., Charlotte, N. C. Turner, O. A. P., Minneapolis, Minn.	Allis-Chalmers Mfg. Co., Milwaukee, Wis. Austro-American Eng. Co., J. R., New York, N. Y. Power & Mining Machinery Co., Ogdensburg, N. Y. Raymond Bros. Impact Pulv. Co., Chicago, Ill.	
<b>Adding Machines.</b>	<b>Belt Lacing.</b>	<b>Bridges. (Rolling Lift.)</b>	<b>Chains.</b>	
Burroughs Adding Machine Co., Detroit, Mich.	Graton & Knight Mfg. Co., Worcester, Mass.	Scherzer Rolling Lift Bridge Co., Chicago, Ill.	Dredge, Quarry, Steam Shovel.	
<b>Agricultural Implements.</b>	<b>Belt Lacing and Supplies. [See Belting. Leather, Canvas, Rubber.]</b>	<b>Bridges. (Steel.)</b>	Walter Chain & Iron Co., Lebanon, Pa.	
Myers & Bro., F. E., Ashland, O.	<b>Bicarbonate Soda.</b> (Sap Stain Lumber Dip.)	Clinchfield Portland Cement Co., Kingsport, Tenn.	<b>Chemists. (Analytical and Consulting.)</b>	
<b>Air Compressors. (Stationary and Portable.)</b>	Church & Dwight Co., New York, N. Y.	Davis, Geo. C., Philadelphia, Pa. Froehling & Robertson, Richmond, Va. Hunt & Co., Robt., Chicago, Ill. Little Inc., A. D., Boston, Mass. Pittsburgh Testing Laboratory, Pittsburgh, Pa. Wiley & Co., Baltimore, Md.	Allis-Chalmers Mfg. Co., Milwaukee, Wis. Austro-American Eng. Co., J. R., New York, N. Y. Power & Mining Machinery Co., Ogdensburg, N. Y. Raymond Bros. Impact Pulv. Co., Chicago, Ill.	
Allis-Chalmers Mfg. Co., Milwaukee, Wis. Chicago Pneumatic Tool Co., Chicago, Ill. Clayton Air Compressor Works, Cambridge, Mass. De La Vergne Machine Co., New York, N. Y. General Electric Co., Schenectady, N. Y. Goulds Mfg. Co., Seneca Falls, N. Y. Ladd-Dunn-Gordon Co., Cincinnati, Ohio.	<b>Billets. (Basic Open Hearth Quality.)</b>	<b>Chloride Accumulator.</b>	Electric Storage Battery Co., The, Philadelphia, Pa.	
<b>Aluminum Products. (Bars, Sheets, Tubes.)</b>	Gulf States Steel Co., Birmingham, Ala.	<b>Chucks.</b>	Morse Twist Drill & Mch. Co., New Bedford, Mass.	
Aluminum Company of America, Pittsburgh, Pa.	<b>Bins (Steel)</b>	<b>Cities and Towns. (Commercial and Industrial Opportunities.)</b> [See Industrial, Agricultural and Commercial Opportunities.]	Clayton & Co., New York, N. Y.	
<b>Ammonia Valves and Fittings.</b>	Merritt & Co., Camden, N. J.	<b>Clamps. (For Concrete Forms.)</b>	Clayworking Machinery. [See Brick and Clayworking Mch. and Supplies.]	
Frick Co., The, Waynesboro, Pa.	<b>Blackboards. (Slates.)</b>	<b>Clayworking Machinery. (Floors, Etc.)</b>	Cleansing Compound. (Floors, Etc.)	
York Mfg. Co., York, Pa.	East Bangor Con. State Co., The, East Bangor Pa. Johnson, E. J., New York, N. Y.	India Alkali Works, Boston, Mass.	India Alkali Works, Boston, Mass.	
<b>Anti-Friction Metals.</b>	<b>Blocks. (Paving Creosoted.)</b>	<b>Clocks. (Watchman.)</b>	Clocks. (Watchman.)	
Bailey Lebby Co. Charleston, S. C.	American Creosote Works, New Orleans, La.	Watchman's Clock & Supply Co., New York, N. Y.	Watchman's Clock & Supply Co., New York, N. Y.	
<b>Architects.</b>	<b>Block Fillers.</b>	<b>Clutches. (Friction.)</b>	Clutches. (Friction.)	
Diehl, Wm. Newton, Norfolk, Va. Gatlin, W. H., Hopkinsville, Ky. Milburn, Heister & Co., Washington, D. C. Serrine, J. E., Greenville, S. C.	Barrett Mfg. Co., Phila. Pa. Standard Oil Co., Newark, N. J. U. S. Asphalt Refining Co., New York, N. Y.	Affiliated Manufacturers Co., Milwaukee, Wis. Medart Patent Pulley Co., St. Louis, Mo. Moore & White Co., The, Philadelphia, Pa.	Affiliated Manufacturers Co., Milwaukee, Wis. Medart Patent Pulley Co., St. Louis, Mo. Moore & White Co., The, Philadelphia, Pa.	
<b>Architects' Supplies.</b>	<b>Blowers and Exhaust Fans.</b>	<b>Coal.</b>	Coal.	
Starrett Co., L. S., Athol, Mass. Weber & Co., F., Philadelphia, Pa.	American Blower Co., Detroit, Mich. Buffalo Forge Co., Buffalo, N. Y. General Electric Co., Schenectady, N. Y. General Fuel Economizer Co., Maticewan, N. Y. Raymond Bros. Impact Pulv. Co., Chicago, Ill. South Atlantic Blow Pipe & Sheet Metal Co., Savannah, Ga. Sturtevant Co., B. F., Hyde Park, Boston, Mass.	Ginchfield Coal Corp., Dante, Va. Ginchfield Fuel Co., Spartanburg, S. C. Consolidation Coal Co., Inc., New York, N. Y. Tennessee Coal, Iron & R. R. Co., Wmgh'm, Ala.	Ginchfield Coal Corp., Dante, Va. Ginchfield Fuel Co., Spartanburg, S. C. Consolidation Coal Co., Inc., New York, N. Y. Tennessee Coal, Iron & R. R. Co., Wmgh'm, Ala.	
<b>Architectural Iron Work.</b>	<b>Blow Torches. (For Soldering and Brazing.)</b>	<b>Coal Cutters.</b>	Coal Cutters.	
Bolles Iron & Wire Wks., J. E., Detroit, Mich. Chesapeake Iron Works, Baltimore, Md. Schreiber & Sons Co., The, Cincinnati, O. Steed Architectural Iron Wks., Louisville, Ky.	Prest-O-Lite Co., Inc., The, Indianapolis, Ind.	Jeffrey Mfg. Co., Columbus, O.	Jeffrey Mfg. Co., Columbus, O.	
<b>Arc. Lamps. (See Lamps) [Arc and Incandescent.]</b>	<b>Blueprinters.</b>	<b>Coal Handling Machinery.</b>	Coal Handling Machinery.	
<b>Art Glass.</b>	Childrey Co., Richmond, Va.	Hartnett & Son Co., H. W., Chicago, Ill. Hayward Co., New York, N. Y. Link-Belt Co., Nicetown (Philadelphia), Pa. Williams Co., The G. H., Cleveland, O.	Hartnett & Son Co., H. W., Chicago, Ill. Hayward Co., New York, N. Y. Link-Belt Co., Nicetown (Philadelphia), Pa. Williams Co., The G. H., Cleveland, O.	
<b>Asbestos.</b>	<b>Boilers.</b>	<b>Building Stone.</b>	Building Stone.	
Asbestos Protected Metal Co., Pittsburgh, Pa. Southern Asbestos Mfg. Co., Inc., Richmond, Va.	Babcock & Wilcox Co., New York, N. Y. Bailey & James Boiler & Mch. Co., Joplin, Mo. Cameron & Barkley Co., Charleston, S. C. Casey-Hedges Co., Chattanooga, Tenn. Chattanooga Boiler & Tank Co., Chat'n'ga, Tenn. Coatesville Boiler Works, Coatesville, Pa. Cole Mfg. Co., R. D., Newnan, Ga. Gibbs Machinery Co., Inc., Columbus, S. O. Hartley Boiler Works, Montgomery, Ala. Hartley Boiler Works, Montgomery, Ala. Schofield Iron Works, Macon, Ga. Southern Engine & Boiler Works, Jackson, Tenn. Vale & Miller Iron Works, Charleston, S. C. Vogt Machine Co., Henry, Louisville, Ky. Walsh & Weidner Boiler Co., Chattanooga, Tenn. Zelnicker Supply Co., Walter A., St. Louis, Mo.	Atlantic Stone Co., Atlanta, Ga. Bedford Steam Stone Works, Bedford, Ind.	Atlantic Stone Co., Atlanta, Ga. Bedford Steam Stone Works, Bedford, Ind.	Atlantic Stone Co., Atlanta, Ga. Bedford Steam Stone Works, Bedford, Ind.
<b>Asphalt.</b>	<b>Blow Torches. (For Soldering and Brazing.)</b>	<b>Building Supplies.</b>	Building Supplies.	
Gulf Refining Co., Pittsburgh, Pa. Standard Oil Co., Inc., Newark, N. J. U. S. Asphalt Refining Co., New York, N. Y.	Prest-O-Lite Co., Inc., The, Indianapolis, Ind.	Harris Bros. Co., Chicago, Ill. Southern Building Material Co., Norfolk, Va.	Harris Bros. Co., Chicago, Ill. Southern Building Material Co., Norfolk, Va.	
<b>Asphalt Mixers.</b>	<b>Blueprinters.</b>	<b>Burners. (Oil.)</b> [See Fuel Oil Equipments.]	Burners. (Oil.) [See Fuel Oil Equipments.]	
Erie Machine Shops, Erie, Pa.	Childrey Co., Richmond, Va.	<b>Bushings. (Oilless, for Loose Pulleys.)</b>	Bushings. (Oilless, for Loose Pulleys.)	
<b>Asphalt Paving Plants.</b>	<b>Boilers.</b>	Metaline Co., Long Island City, N. Y.	Metaline Co., Long Island City, N. Y.	
Cummer & Son Co., F. D., The., Cleveland, Ohio.	Babcock & Wilcox Co., New York, N. Y.	<b>Cables.</b>	Cables.	
<b>Automobile. (Gasoline Passenger.)</b>	<b>Boiler Covering.</b>	Broderick & Bascom Rope Co., St. Louis, Mo. Roseling's Sons Co., John A., Trenton, N. J.	Broderick & Bascom Rope Co., St. Louis, Mo. Roseling's Sons Co., John A., Trenton, N. J.	
White Co., The, Cleveland, Ohio	<b>Boiler Graphite.</b>	<b>Cables. (Underground.)</b>	Cables. (Underground.)	
<b>Automobiles. (Second Hand.)</b>	Dixon Crucible Co., Joseph, Jersey City, N. J.	Safety Insulated Wire & Cable Co., New York, N. Y.	Safety Insulated Wire & Cable Co., New York, N. Y.	
Mar-Del Mobile Co., Baltimore, Md.	<b>Boiler Tubes. [See Tubes, Boiler.]</b>	<b>Cables and Wires. (Insulated.)</b>	<b>Cables and Wires. (Insulated.)</b>	
<b>Axes. [See Car Wheels, Axles and Trucks.]</b>	<b>Boots, Nuts, Rivets, Studs and Washers.</b>	American Steel & Wire Co., Chicago, Ill.	American Steel & Wire Co., Chicago, Ill.	
<b>Babbitt Metal. (See Anti-Friction Metal.)</b>	Progressive Mfg. Co., Torrington, Conn. Republic Iron & Steel Co., Youngstown, O. Upon Nut Co., The, Cleveland, O.	Safety Insulated Wire & Cable Co., New York, N. Y.	Safety Insulated Wire & Cable Co., New York, N. Y.	
<b>Ballast. (Railroad.)</b>	<b>Bonds. (Surety, etc.)</b>	<b>Cableways. (Overhead Suspension.)</b>	<b>Cableways. (Overhead Suspension.)</b>	
American Ballast Co., Knoxville, Tenn. Laid Mountain Quarry, Newson, N. C. Chickamauga Quarry & Conest. Co., Chattanooga, Tenn.	Fidelity & Deposit Co. of Balt., Baltimore, Md.	Amburson Co. (Tramway Department, New York, N. Y.)	Amburson Co. (Tramway Department, New York, N. Y.)	
Kirkpatrick Sand & Cement Co., Birmingham, Columbia, S. C.	<b>Bottling Outfits.</b>	Broderick & Bascom Rope Co., St. Louis, Mo. Roseling's Sons Co., John A., Trenton, N. J.	Broderick & Bascom Rope Co., St. Louis, Mo. Roseling's Sons Co., John A., Trenton, N. J.	
Kirkpatrick Supply Co., The, Columbia, S. C.	Vilter Mfg. Co., Milwaukee, Wis.	<b>Cables. (Underground.)</b>	Cables. (Underground.)	
<b>Bankers and Brokers.</b>	<b>Brass Goods.</b>	Safety Insulated Wire & Cable Co., New York, N. Y.	Safety Insulated Wire & Cable Co., New York, N. Y.	
Delaware Trust Co., Wilmington, Del. Edwards, Geo. B., New York, N. Y. Electric Bond & Share Co., New York, N. Y. Halsey & Co., N. W., New York, N. Y. Mercantile Trust & Deposit Co., Balt., Md. New First National Bank, Columbus, O. Nuveen & Co., John, Chicago, Ill. Peabody, Huntington & Co., Chicago, Ill. Powell, Garard & Co., Chicago, Ill. Provident Savings Bank & Trust Co., Cincinnati, O. Southern States Developm't Co., New York, N. Y.	Bailey-Lebby Co., Charleston, S. C. Buckeye Iron & Brass Works, Dayton, O. Lunkenheimer Co., The, Cincinnati, Ohio Powell Co., Wm., Cincinnati, O.	<b>Canning Machinery and Supplies.</b>	Canning Machinery and Supplies.	
<b>Bank and Office Railings and Grilles. (Iron)</b>	<b>Brass Railing and Grilles.</b>	Robins & Co., A. K., Baltimore, Md. Sprague Canning Machinery Co., Chicago, Ill.	Robins & Co., A. K., Baltimore, Md. Sprague Canning Machinery Co., Chicago, Ill.	
Bolles Iron & Wire Wks., J. E., Detroit, Mich. Cincinnati! Mfg. Co., Cincinnati, O. Dow Wire & Iron Works, Louisville, Ky. Dufur & Co., Baltimore, Md. Dufur, Haggard & Co., Baltimore, Md. Eureka Supply Co., Chattanooga, Tenn. Meyers Mfg. Co., F. A., Hamilton, O. Ohio Elevator & Machine Co., The, Columbus, O.	<b>Brewers' Machinery.</b>	<b>Carborundum Paper and Cloth.</b>	Carborundum Paper and Cloth.	
<b>Barges.</b>	<b>Brick. (Acid.)</b>	Carborundum Co., Niagara Falls, N. Y.	Carborundum Co., Niagara Falls, N. Y.	
American Bridge Co., of New York, N. Y.	Hood Brick Co., B. Mifflin, Atlanta, Ga.	<b>Cars. (Dump, Industrial, Logging and Mine.)</b>	Cars. (Dump, Industrial, Logging and Mine.)	
<b>Bar Iron. (Refined and Galvanized.)</b>	<b>Brick. (Building.)</b>	Austin Mfg. Co., Chicago, Ill. Chase Fdry. & Mfg. Co., Columbus, O. Curd, Geo. B., Cincinnati, Ohio Electric Wheel Co., Quincy, Ill. Georgia Car & Locomotive Co., Atlanta, Ga. Hunt Co., C. W., Inc., West New Brighton, N. Y. Oliver Mfg. Co., Wm. J., Knoxville, Tenn. Western Wheeled Scraper Co., Aurora, Ill.	Austin Mfg. Co., Chicago, Ill. Chase Fdry. & Mfg. Co., Columbus, O. Curd, Geo. B., Cincinnati, Ohio Electric Wheel Co., Quincy, Ill. Georgia Car & Locomotive Co., Atlanta, Ga. Hunt Co., C. W., Inc., West New Brighton, N. Y. Oliver Mfg. Co., Wm. J., Knoxville, Tenn. Western Wheeled Scraper Co., Aurora, Ill.	
Bonne-Fujier Co., The, Cleveland, Ohio. Lackawanna Steel Co., Lackawanna, N. Y.	<b>Brick. (Enamelled.)</b>	<b>Cars. (Passenger and Freight.)</b> [See Railroad Equipment and Supplies.]	Cars. (Passenger and Freight.) [See Railroad Equipment and Supplies.]	
<b>Bars. (Steel, Rounds, Flats, Plates and Squares.)</b>	Am. Enamelled Brick & Tile Co., New York, N. Y.	<b>Cars Wheels, Axles and Trucks.</b>	Cars Wheels, Axles and Trucks.	
Gulf States Steel Co., Birmingham, Ala. Pardes Works, G., Perth Amboy, N. J.	<b>Brick. (Fire.)</b>	Oliver Mfg. Co., Wm. J., Knoxville, Tenn.	Oliver Mfg. Co., Wm. J., Knoxville, Tenn.	
<b>Bars, Wire, Wire Fabric, etc. (For Reinforced Concrete.)</b>	Killian Fireproofing & Brick Works, Killian, S. O. Louisville Fire Brick Works, Highland Park, Ky. Mexico Brick & Clay Co., Mexico, N. G. Pomona Terra-Cotta Co., Pomona, N. G. Standard Brick Co., Macon, Ga. Stevens' Sons Co., H., Macon, Ga. Union Mining Co., Mt. Savage, Md.	<b>Cast Iron Pipe. (See Pipe.)</b> [Cast Iron.]	Cast Iron Pipe. (See Pipe.) [Cast Iron.]	
Cincinnati Iron & Steel Co., Cincinnati, O. Hoffman & Co., Inc., E. C., Baltimore, Md. Jones & Laughlin Steel Co., Pittsburgh, Pa. Laclede Steel Co., St. Louis, Mo.	<b>Brick. (Paving.)</b>	<b>Castings. (Aluminum.)</b>	Castings. (Aluminum.)	
<b>Bars, Wire, Wire Fabric, etc. (For Reinforced Concrete.)</b>	Copeland-Ingle Shale Brick Co., Birmingham, Ala. Dunn Wire-Cut-Lug Brick Co., Cincinnati, Ohio Southern Clay Mfg. Co., Chattanooga, Tenn. Standard Brick Co., Macon, Ga.	Aluminum Company of America, Pittsburgh, Pa.	Aluminum Company of America, Pittsburgh, Pa.	
Cincinnati Iron & Steel Co., Cincinnati, O. Hoffman & Co., Inc., E. C., Baltimore, Md. Jones & Laughlin Steel Co., Pittsburgh, Pa. Laclede Steel Co., St. Louis, Mo.	<b>Brick. and Clayworking Machinery and Supplies.</b>	<b>Castings. (Brass and Bronze.)</b>	Castings. (Brass and Bronze.)	
<b>Bearings. (Oils.)</b>	Chase Fdry. & Mfg. Co., Columbus, O. Fernholz Brick Machinery Co., St. Louis, Mo. Freese & Co., E. M., Gallon, O. Steele & Sons, J. C., Sisterville, N. G.	McKenna Bros. Brass Co., Pittsburgh, Pa. Triumph Electric Co., Cincinnati, O.	McKenna Bros. Brass Co., Pittsburgh, Pa. Triumph Electric Co., Cincinnati, O.	
Metalone Co., Long Island City, N. Y.	<b>Brick. (Paving.)</b>	<b>Castings. (Gray Iron.)</b>	Castings. (Gray Iron.)	
Bedford Stone	Carey-Paving Brick Co., Portsmouth, O. Copeland-Ingle Shale Brick Co., Birmingham, Ala. Dunn Wire-Cut-Lug Brick Co., Cincinnati, Ohio Southern Clay Mfg. Co., Chattanooga, Tenn. Standard Brick Co., Macon, Ga.	Columbian Iron Works, Chattanooga, Tenn. Georgia Car & Locomotive Co., Atlanta, Ga. Glamorgan Pipe & Foundry Co., Lynchburg, Va. Hull's Sons, F. D., Hagerstown, Md. Lynchburg Foundry Co., Lynchburg, Va. Phoenix Iron Works Co., Meadville, Pa. U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J. Valk & Murdoch Iron Works, Charleston, S. C. Westbrook Elevator Co., Danville, Va.	Columbian Iron Works, Chattanooga, Tenn. Georgia Car & Locomotive Co., Atlanta, Ga. Glamorgan Pipe & Foundry Co., Lynchburg, Va. Hull's Sons, F. D., Hagerstown, Md. Lynchburg Foundry Co., Lynchburg, Va. Phoenix Iron Works Co., Meadville, Pa. U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J. Valk & Murdoch Iron Works, Charleston, S. C. Westbrook Elevator Co., Danville, Va.	
<b>Belt.</b>	<b>Belt Dressing.</b>	<b>Castings. (Malleable Iron and Steel.)</b>	Castings. (Malleable Iron and Steel.)	
Bellamy Supply Co., Providence, R. I. Bailey-Lebby Co., Charleston, S. C. Baltimore Belting Co., Baltimore, Md. Cameron & Barkley Co., Charleston, S. C. Chessapeake Belting Co., Baltimore, Md. Druid Oak Belting Co., Inc., Baltimore, Md. Frederick Belting Co., St. Louis, Mo. Gandy Belting Co., Baltimore, Md. Graton & Knight Mfg. Co., Worcester, Mass. Main Belting Co., Phila., Pa. Schiere Co., Chas., New York, N. Y. Smith-Courtney Co., Richmond, Va.	Bartlett & Snow Co., C. O., Cleveland, O. Calwell & Sons Co., H. W., Chicago, Ill. Jeffery Mfg. Co., Columbus, O. Link-Belt Co., Nicetown, (Philadelphia) Pa.	Columbian Iron Works, Chattanooga, Tenn. Georgia Car & Locomotive Co., Atlanta, Ga. Glamorgan Pipe & Foundry Co., Lynchburg, Va. Hull's Sons, F. D., Hagerstown, Md. Lynchburg Foundry Co., Lynchburg, Va. Phoenix Iron Works Co., Meadville, Pa. U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J. Valk & Murdoch Iron Works, Charleston, S. C. Westbrook Elevator Co., Danville, Va.	Castings. (Malleable Iron and Steel.)	
<b>Belt. (Leather, Canvas, Rubber.)</b>	<b>Belt Lacing.</b>	<b>Castings. (Steel.)</b>	Castings. (Steel.)	
American Supply Co., Providence, R. I. Bailey-Lebby Co., Charleston, S. C. Baltimore Belting Co., Baltimore, Md. Cameron & Barkley Co., Charleston, S. C. Chessapeake Belting Co., Baltimore, Md. Druid Oak Belting Co., Inc., Baltimore, Md. Frederick Belting Co., St. Louis, Mo. Gandy Belting Co., Baltimore, Md. Graton & Knight Mfg. Co., Worcester, Mass. Main Belting Co., Phila., Pa. Schiere Co., Chas., New York, N. Y. Smith-Courtney Co., Richmond, Va.	Bartlett & Snow Co., C. O., Cleveland, O. Calwell & Sons Co., H. W., Chicago, Ill. Jeffery Mfg. Co., Columbus, O. Link-Belt Co., Nicetown, (Philadelphia) Pa.	Columbian Iron Works, Chattanooga, Tenn. Georgia Car & Locomotive Co., Atlanta, Ga. Glamorgan Pipe & Foundry Co., Lynchburg, Va. Hull's Sons, F. D., Hagerstown, Md. Lynchburg Foundry Co., Lynchburg, Va. Phoenix Iron Works Co., Meadville, Pa. U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J. Valk & Murdoch Iron Works, Charleston, S. C. Westbrook Elevator Co., Danville, Va.	Castings. (Steel.)	
<b>Bearings.</b>	<b>Belt Lacing and Supplies. [See Belting. Leather, Canvas, Rubber.]</b>	<b>Ceilings. (Metal.)</b>	Ceilings. (Metal.)	
Metalone Co., Long Island City, N. Y.	<b>Belt Lacing and Supplies. [See Belting. Leather, Canvas, Rubber.]</b>	Edwards Manufacturing Co., Cincinnati, O. Heighley Metal Cast. & Mfg. Co., S., Pittsburgh, Pa.	Edwards Manufacturing Co., Cincinnati, O. Heighley Metal Cast. & Mfg. Co., S., Pittsburgh, Pa.	
<b>Bedford Stone.</b>	<b>Belt Lacing and Supplies. [See Belting. Leather, Canvas, Rubber.]</b>	<b>Cement.</b>	Cement.	
Bedford Steam Stone Works, Bedford, Ind.	<b>Belt Lacing and Supplies. [See Belting. Leather, Canvas, Rubber.]</b>	Clinchfield Portland Cement Co., Kingsport, Tenn. Dixie Portland Cement Co., Chattanooga, Tenn. Hartrum & Cement Co., Wm. G., Philadelphia, Pa. Kirkpatrick Sand & Cement Co., Birmingham, Ala. Kosmos Portland Cement Co., Inc., Louisville, Ky. Lehigh Portland Cement Co., Allentown, Pa. Southern States Portland Cement Co., Rockmart, Ga. Standard Portland Cement Co., Leeds, Ala.	Clinchfield Portland Cement Co., Kingsport, Tenn. Dixie Portland Cement Co., Chattanooga, Tenn. Hartrum & Cement Co., Wm. G., Philadelphia, Pa. Kirkpatrick Sand & Cement Co., Birmingham, Ala. Kosmos Portland Cement Co., Inc., Louisville, Ky. Lehigh Portland Cement Co., Allentown, Pa. Southern States Portland Cement Co., Rockmart, Ga. Standard Portland Cement Co., Leeds, Ala.	
<b>Belt.</b>	<b>Belt Lacing and Supplies. [See Belting. Leather, Canvas, Rubber.]</b>	<b>Cement Machinery.</b>	Cement Machinery.	
Bellamy Supply Co., Providence, R. I.	<b>Belt Lacing and Supplies. [See Belting. Leather, Canvas, Rubber.]</b>	Allis-Chalmers Mfg. Co., Milwaukee, Wis. Austro-American Eng. Co., J. R., New York, N. Y. Power & Mining Machinery Co., Ogdensburg, N. Y. Raymond Bros. Impact Pulv. Co., Chicago, Ill.	Allis-Chalmers Mfg. Co., Milwaukee, Wis. Austro-American Eng. Co., J. R., New York, N. Y. Power & Mining Machinery Co., Ogdensburg, N. Y. Raymond Bros. Impact Pulv. Co., Chicago, Ill.	
<b>Belt. (Leather, Canvas, Rubber.)</b>	<b>Belt Lacing and Supplies. [See Belting. Leather, Canvas, Rubber.]</b>	<b>Chloride Accumulator.</b>	Chloride Accumulator.	
American Supply Co., Providence, R. I.	<b>Belt Lacing and Supplies. [See Belting. Leather, Canvas, Rubber.]</b>	<b>Chucks.</b>	Chucks.	
Bailey-Lebby Co., Charleston, S. C.	<b>Belt Lacing and Supplies. [See Belting. Leather, Canvas, Rubber.]</b>	<b>Cities and Towns. (Commercial and Industrial Opportunities.)</b> [See Industrial, Agricultural and Commercial Opportunities.]	Cities and Towns. (Commercial and Industrial Opportunities.)	
Baltimore Belting Co., Baltimore, Md.	<b>Belt Lacing and Supplies. [See Belting. Leather, Canvas, Rubber.]</b>	<b>Clamps. (For Concrete Forms.)</b>	Clamps. (For Concrete Forms.)	
Cameron & Barkley Co., Charleston, S. C.	<b>Belt Lacing and Supplies. [See Belting. Leather, Canvas, Rubber.]</b>	<b>Clayworking Machinery. (See Brick and Clayworking Mch. and Supplies.)</b>	Clayworking Machinery. (See Brick and Clayworking Mch. and Supplies.)	
Chessapeake Belting Co., Baltimore, Md.	<b>Belt Lacing and Supplies. [See Belting. Leather, Canvas, Rubber.]</b>	<b>Cleansing Compound. (Floors, Etc.)</b>	Cleansing Compound. (Floors, Etc.)	
Druid Oak Belting Co., Inc., Baltimore, Md.	<b>Belt Lacing and Supplies. [See Belting. Leather, Canvas, Rubber.]</b>	<b>India Alkali Works, Boston, Mass.</b>	India Alkali Works, Boston, Mass.	
Frederick Belting Co., St. Louis, Mo.	<b>Belt Lacing and Supplies. [See Belting. Leather, Canvas, Rubber.]</b>	<b>Clocks. (Watchman.)</b>	Clocks. (Watchman.)	
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Lane & Bowler Co., Houston, Tex.

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Austin Mfg. Co., Chicago, Ill.  
Ever-Mach. Co., The John F., Ravenna, O.  
Gard, G. B., Cincinnati, O.  
Gardner Bros., B., Bangor, Pa.  
Garde Bros. Steel & Rail Co., Pittsburgh, Pa.  
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Milburn Co., Alex. N., Baltimore, Md.  
Monighan Mch. Co., Chicago, Ill.  
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Guarantees Construction Co., New York, N. Y.  
Hart Co., Wm. H., West New Brighton, N. Y.  
Jeffrey Mfg. Co., Cincinnati, O.  
Lidgerwood Mfg. Co., New York, N. Y.  
Link-Belt Co., Nicetown, (Philadelphia) Pa.  
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**Cooperative Stock and Box Shook Machinery.**  
Gierlach Co., Peter, Cleveland, O.

**Coppersmith.**  
McMillan Bros., Jacksonville, Fla

**Cordage.**  
Broderick & Bascom Rope Co., St. Louis, Mo.  
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**Cotton Yarns. (Commission Merchants.)**  
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Garter Cotton Gin Co., East Bridgewater, Mass.  
Continental Gin Co., Birmingham, Ala.  
Gibbs Machinery Co., Inc., Columbia, S. C.  
Murray Co., The, Atlanta, Ga.

**Cotton-Mill Machinery.**  
Draper Co., Hopedale, Mass.  
Mason Machine Works, Taunton, Mass.  
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Whitinsville Spinning Ring Co., Whitinsville, Mass.

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Buckeye Iron & Brass Works, Dayton, O.  
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**Couplings. (Car.)**  
Weimer Chain & Iron Co., Lebanon, Pa.

**Couplings. (Hose, Air, Gas, Steam and Water.)**  
National Tube Co., Pittsburgh, Pa.

**Coverings. (Pipe, Boiler, etc.)**  
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Southern Crooseting Co., Ltd., Slidell, La.  
Southern Wood Preserving Co., Atlanta, Ga.

**Crossarms and Pins.**  
Western Electric Co., New York, N. Y.

**Crossarms. (Crooseted.)**  
American Crooseting Wks., New Orleans, La.  
Intern'l Crooseting & Cons. Co., Galveston, Tex.  
National Lumber & Croos Co., Texarkana, Ark.  
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Southern Wood Preserving Co., Atlanta, Ga.

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**Crossite Machine.**  
Standard Portable Saw Mill Co., New Orleans, La.

**Croosites. (Crooseted.)**  
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Intern'l Crooseting & Cons. Co., Galveston, Tex.  
National Lumber & Croos Co., Texarkana, Ark.  
Southern Crooseting Co., Ltd., Slidell, La.  
Southern Wood Preserving Co., Atlanta, Ga.

**Crushed Stone. (Road Concrete and Ballast.)**  
American Ballast Co., Knoxville, Tenn.  
Atlantic Stone Co., Atlanta, Ga.  
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Chickamauga Quarry & Construction Co., Chattanooga, Tenn.  
Kirpatrick Sand & Cement Co., Birmingham, Ala.  
Weston Crook Quarry Co., Columbia, S. C.

**Crushers. (Corn and Cob.)**  
Gruendler Pat. Crusher & Pulp. Co., St. Louis, Mo.  
Jeffrey Mfg. Co., Columbus, O.  
Raymond Bros. Impact Pulp. Co., Chicago, Ill.

**Crushers. (Rock.)**  
Austin Mfg. Co., Chicago, Ill.  
Buchanan Co., Inc., C. G., New York, N. Y.  
Chalmers & Williams, Inc., Chicago Heights, Ill.  
Power & Mining Machinery Co., Ogdensburg, Wis.  
Raymond Bros. Impact Pulp. Co., Chicago, Ill.  
Universal Road Mch. Co., Kingston, N. Y.  
Western Wheeled Scraper Co., Aurora, Ill.  
Wheeling Mold & Pdry. Co., Wheeling, W. Va

**Crushing and Pulverizing Machinery.**  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Ailing Engineering Co., J. B., New York, N. Y.  
Austin Mfg. Co., Chicago, Ill.  
Bartlett & Snow Co., C. O., Cleveland, O.  
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Jeffrey Mfg. Co., Columbus, O.  
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.  
Raymond Bros. Impact Pulp. Co., Chicago, Ill.  
Stedman's Foundry & Machine Works, Aurora, Ind.  
Western Wheeled Scraper Co., Aurora, Ill.  
Wheeling Mold & Pdry. Co., Wheeling, W. Va

**Culvert Pipe. (Cast Iron.)**  
American Cast Iron Pipe Co., Birmingham, Ala.  
Clow & Sons, James B., Chicago, Ill.  
Donaldson Iron Co., Emmaus, Pa.  
Glanzmann Pipe & Foundry Co., Lynchburg, Va.  
Lynchburg Foundry Co., Lynchburg, Va.  
Massillon Iron & Steel Co., Massillon, Ohio.  
Wood & Co., R. D., Philadelphia, Pa.

**Culverts. (Corrugated Metal.)**  
American Sheet & Plate Co., Pittsburgh, Pa.  
Armed Culvert Publicity Bureau, Cincinnati, O.  
Atlas Metal Works, Dallas, Tex.  
Canton Culvert and Silo Co., The, Canton, O.  
Dixie Culvert & Metal Co., Atlanta, Ga.  
Galloway Iron Works Co., Inc., Galion, Ohio.  
Harry Bros. Co., New Orleans, La.  
Lone Star Culvert Co., Houston, Tex.  
National Corrugated Culvert Mfg. Co., Warren, Pa.  
Newport Culvert Co., Inc., Newport, Ky.  
Salisbury Metal Culvert Co., Inc., Salisbury, N. C.  
Tennessee Metal Culvert Co., Nashville, Tenn.  
Virginia Metal & Culvert Co., Inc., Roanoke, Va.

**Culverts. (Vitrified Pipe.)**  
Southern Sewer Pipe Co., Birmingham, Ala.  
Stevens Sons Co., H., Macon, Ga.

**Curb Protector. (Steel.)**  
Steel Protected Concrete Co., Philadelphia, Pa.

**Cutter Grinders.**  
Vitrified Wheel Co., Westfield, Mass.

**Cutting. (Oxy-Acetylene Process.)**  
Prest-O-Lite Co., Inc., The, Indianapolis, Ind.

**Cuts. (Half Tone, Line, Etc.)**  
Alpha Photo Engraving Co., Baltimore, Md.

**Dams. (Reinforced Concrete.)**  
Berry-Fortune Construction Co., Eatonton, Ga.

**Derricks and Derrick Fittings.**  
Byers Mch. Co., The John F., Ravenna, O.  
Hayward Co., The, New York, N. Y.  
Monighan Mch. Co., Chicago, Ill.

**Designers and Illustrators. (Printed Matter.)**  
Alpha Photo Engraving Co., Baltimore, Md.

**Disposal Plants. (Garbage Incinerators.)**  
Stacy-Bates Co., Minneapolis, Minn.

**Ditching Machinery.**  
American Steel Dredge Co., Fort Wayne, Ind.  
Bay City Dredge Works, Bay City, Mich.  
Fairbanks Steam Shovel Co., Marion, O.  
Hayward Co., The, New York, N. Y.  
Marion Steam Shovel Co., Marion, O.  
Monighan Machine Co., Chicago, Ill.  
Thev Automatic Shovel Co., Lorain, Ohio.  
Williams Co., The, G. H., Cleveland, O.

**Doors. (Steel Rolling.)**  
Kinnear Mfg. Co., Columbus, O.  
Van Harlingen, J. M., Atlanta, Ga.

**Doors. (Tin Clad.)**  
Victor Mfg. Co., Newburyport, Mass.

**Double Seamers.**  
Max Ams Machine Co., Mt Vernon, N. Y.

**Draftsman.**  
Childrey Co., Richmond, Va.

**Draftsmen's Supplies.**  
Weber & Co., F., Philadelphia, Pa.

**Dredge Chains.**  
Weimer Chain & Iron Co., Lebanon, Pa.

**Dredges. [See Excavating Machinery.]**

**Drills. (Pneumatic.) [See also Drills Rock and Mining.]**

**Drills. (Prospecting.)**  
Keystone Steam Well Mach. Co., Beaver Falls, Pa.

**Drills. (Rock and Mining.)**  
Independent Pneumatic Tool Co., Chicago, Ill.  
Jeffrey Mfg. Co., Columbus, O.  
Wicks Bros., Jersey City, N. J.

**Drills. (Twist.)**  
McKenna Bros. Brass Co., Pittsburgh, Pa.  
Morse Twist Drill & Mch. Co., New Bedford, Mass.

**Drive Well Points and Well Supplies.**  
National Tube Co., Pittsburgh, Pa.

**Drop Forgings.**  
American Spiral Pipe Works, Chicago, Ill.

**Drop Forging Machinery.**  
Bliss Co. E. W., Brooklyn, N. Y.

**Dry Docks. (Builders of)**  
American Bridge Co. of New York, N. Y.

**Drying Machinery.**  
American Process Co., New York, N. Y.  
Bailey-Lobby Co., The, Charleston, S. C.  
Buffalo Forge Co., Buffalo, N. Y.  
Coatesville, Boiler Works, Coatesville, Pa.  
Summer & Son Co., F. D., The, Cleveland, Ohio.  
Hershey Manufacturing Co., South Boston, Mass.  
Ruggles-Cole Engineering Co., New York, N. Y.  
Starrett Co., B. F., Hyde Park, Boston, Mass.

**Dry Kilns.**  
Buffalo Forge Co., Buffalo, N. Y.  
Moore Dry Kiln Co., L., Jacksonville, Fla.

**Dry Kiln Equipment.**  
Moore Dry Kiln Co., L., Jacksonville, Fla.

**Dumbwaiters. (Hand Power.)**  
King, Wm. F., Brooklyn, N. Y.  
McKenna Bros. Brass Co., Pittsburgh, Pa.  
Spedel, J. G., Reading, Pa.

**Dump Wagons and Wagon** ~~Wagons~~  
Troy Wagon Works Co., Troy, O.

**Dust-Collecting System**

**Dynamite. (Industrial and Agricultural.)**  
Du Pont De Nemours Powder Co., E. I.  
Keystone Nat'l Powder Co., Emporia, Pa.

**Dynamos and Motors.**  
Assets Purchasing Co., Wheeling, W. Va.  
General Electric Co., Schenectady, N. Y.  
Pan Electric Mfg. Co., St. Louis, Mo.  
Terry Steam Turbine Co., Hartford, Conn.  
Triumph Electric Co., Cincinnati, O.  
Western Electric Co., New York, N. Y.

**Eaves. (Trough.)**  
Edwards Mfg. Co., Cincinnati, O.

**Electors. (Sewage.)**  
Lunkenheimer Co., The, Cincinnati, O.  
Pacific Flush Tank Co., New York, N. Y.

**Electric Machinery. (Dynamics, Generators, Motors, etc.)**

**Electric Contractors, Instruments and Supplies.**

**Electricity.**

**Elevators.**

**Electric Light Plants. (Portable.)**  
Schroeder Electric Co., Evansville, Ind.

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**Elevator**

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**Electric Machine & Elevator Co., St. Louis, Mo.**

**Atlas Machine Co., Louisville, Ky.**

**Curren Elevator Co., James H., Cincinnati, O.**

**K. C. Elevator Mfg. Co., Kansas City, Mo.**

**Miller Elevator Mfg. Co., Wm. A., St. Louis, Mo.**

**Moffatt Machinery Mfg. Co., Charlotte, N. C.**

**Ohio Elevator & Machine Co., Columbus, Ohio.**

**Otis Elevator Co., New York, N. Y.**

**Spedel, J. G., Reading, Pa.**

**Warren Elevator Co., Baltimore, Md.**

**Westbrook Elevator Co., Danville, Va.**

**HAND AND BELT POWER.**

**American Electric Machine & Elevator Co., St. Louis, Mo.**

**Atlas Machine Co., Louisville, Ky.**

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**Miller Elevator Mfg. Co., Wm. A., St. Louis, Mo.**

**Moffatt Machinery Mfg. Co., Charlotte, N. C.**

**Ohio Elevator & Machine Co., Columbus, Ohio.**

**Otis Elevator Co., New York, N. Y.**

**Spedel, J. G., Reading, Pa.**

**Westbrook Elevator Co., Danville, Va.**

**STEAM HYDRAULIC.**

**Ridgway & Son Co., The, Coatesville, Pa.**

**Elevators. (Automatic.)**

**Mathews Gravity Carrier Co., Elkhorn City, Ky.**

**Elevators. (Portable for Warehouses, etc.)**

**Economy Engineering Co., Chicago, Ill.**

**Elevator Bolts.**

**Upson Nut Co., The, Cleveland, O.**

**Elevator Buckets.**

**Caldwell & Son Co., H. W., Chicago, Ill.**

**Hendrick Mfg. Co., Carbondale, Pa.**

**Jeffrey Mfg. Co., Columbus, O.**

**Link-Belt Co., Nicetown (Philadelphia), Pa.**

**Elevator Enclosures and Cabs.**

**Boller Iron & Wire Works, J. E., Detroit, Mich.**

**Cincinnati Mfg. Co., Cincinnati, O.**

**Dow Wire & Iron Works Louisville, Ky.**

**Dufur, Hagerty & Co., Baltimore, Md.**

**Meyers Mfg. Co., The Fred J., Hamilton, O.**

**Ohio Elevator & Machine Co., The, Columbus, O.**

**Otis Elevator Co., New York, N. Y.**

**Elevator Rope. [See Wire Rope.]**

**Elevator Safety Gates.**

**American Elec. Mch. & Elevator Co., St. Louis, Mo.**

**Richmond Safety Gate Co., Richmond, Ind.**

**Emery Wheels. [See Grinding Wheels.]**

**Engineers.**

**APPLIED.**

**Atlantic Engineering Co., Savannah, Ga.**

**Day & Zimmerman, Philadelphia, Pa.**

**Ferris Co., The H. G., Memphis, Tenn.**

**Weller, Francis R., Washington, D. C.**

**BLAST FURNACES.**

**Smythe Co., The S. B., Pittsburgh, Pa.**

**BRIDGE.**

**Atlantic Engineering Co., Savannah, Ga.**

**Greiner & Whitman, Baltimore, Md.**

**CHEMICAL.**

**Crosby, Walter W., Baltimore, Md.**

**Institute of Industrial Research, Washington, D. C.**

**Little, Inc., A. D., Boston, Mass.**

**Pittsburgh Testing Laboratory, Pittsburgh, Pa.**

**CIVIL.**

**Arnold Co., The, Chicago, Ill.**

**Brown & Clarkson, Washington, D. C.**

**Bryant, Glancus A., Wilson, N. O.**

**Evans, G. G., Memphis, Tenn.**

**Hogue Engineering Ass'n., Charleston, W. Va.**

**Knowles, Morris, Pittsburgh, Pa.**

**Moie, H. E., New York, N. Y.**

**Potter, Alexander, New York, N. Y.**

**Shaw, H. B., New York, N. Y.**

**Stevens, Harry, Washington, D. C.**

**Thompson & Moseley, Greensboro, N. C.**

**Waldo, W., Houston, Tex.**

**Walker Engineering Corp., Tampa, Fla.**

**White Companies, J. G., New York, N. Y.**

**DOCKS.**

**Quick, Alfred M., Baltimore, Md.**

**Requarth Co., C. W., Charlotte, N. C.**

**Springer, William C., Atlanta, Ga.**

**Weller, Francis R., Washington, D. C.**

**White Companies, J. G., New York, N. Y.**

**DRAINAGE AND IRRIGATION.**

**Atlantic Engineering Co., Savannah, Ga.**

**Brown & Clarkson, Washington, D. C.**

**Bryant, Glancus A., Wilson, N. O.**

**Cochrane, G. G., Memphis, Tenn.**

**Dabney Engineering Co., Memphis, Tenn.**

**Evans, G. G., Wilson, N. O.**

**Hogue Engineering Ass'n., Charleston, W. Va.**

**Knowles, Morris, Pittsburgh, Pa.**

**Moie, H. E., New York, N. Y.**

**Potter, Alexander, New York, N. Y.**

**Shaw, H. B., New York, N. Y.**

**Stevens, Harry, Washington, D. C.**

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**Insulating Materials.** General Electric Co., Schenectady, N. Y. Johns-Manville Co., H. W., New York, N. Y.

**Insurance.** Hartford Steam Boiler Inspector & Insurance Co., Hartford, Conn.

**Investment Securities.** New First National Bank, Columbus, O. Powell, Garad & Co., Chicago, Ill. Provident Savings Bank & Trust Co., Cincinnati, Ohio.

**Iron.** Allegheny Steel Co., Pittsburgh, Pa. La Belle Iron Works, Steubenville, O. Republic Iron & Steel Co., Youngstown, O. Tennessee Coal, Iron & R. R. Co., Birmingham, Ala. Union Drawn Steel Co., Beaver Falls, Pa. Wood Iron & Steel Co., Alan, Philadelphia, Pa.

**Irrigation Machinery.** Cameron Steam Pump Wk., A. S. New York, N. Y.

**Kettles. (Steam Jacket.)** Badger & Sons Co., E. H., Boston, Mass.

**Lace Leather.** Graton & Knight Mfg. Co., Worcester, Mass.

**Lamps. (Arc and Incandescent.)** Boston-Economy Lamp Division, Danvers, Mass. General Electric Co., Schenectady, N. Y. Lee Electric Co., Baltimore, Md. Piedmont Electric Co., Asheville, N. C.

**Lamps. (Carbon and Tungsten.)** Newman Electric Lamp Co., Cincinnati, O.

**Lamp Posts. (Electric, Gas.)** Western Gas Construction Co., Ft. Wayne, Ind.

**Lands. (Mineral, Timber, Farm, etc.)** [See Industrial, Agricultural and Commercial Opportunities.]

**Landscape Architects (See Engineers.)** [Land-scaping.]

**Lathe Attachment.** (Combination) Garrett Attachment Co., Nashville, Tenn.

**Lathes. (Engine.)** Graves, Kusman Tool Co., The, Cincinnati, O.

**Lawn Furniture. (Wire.)** Boller Iron & Wire Works, J. E., Detroit, Mich. Dufur & Co., Baltimore, Md. Dufur, Baggott & Co., Baltimore, Md.

**Lights. (Portable Acetylene.)** Milburn Co., Alex. N., Baltimore, Md.

**Liquor Filters.** International Filter Co., Chicago, Ill.

**Lithographers, Engravers.** Young & Selden Co., Baltimore, Md.

**Lockers (Steel).** Bernstein Mfg. Co., Phila., Pa. Kightley Metal Ceiling Mfg. Co., S., Pittsburgh, Pa.

**Merritt & Co., Camden, N. J.** Van Hartingen, J. M., Atlanta, Ga.

**Locomotives.**

**INDUSTRIAL.** Baldwin Locomotive Wks., The, Philadelphia, Pa. Climax Mfg. Co., Corry, Pa. Gard, Geo. B., Cincinnati, O. Davenport Locomotive Works, Davenport, Ia. Jafe Co., J. D., Portsmouth, Ohio. Jeffrey Mfg. Co., Columbus, O. Lima Locomotive Corporation, Lima, O. Porter Co., H. K., Pittsburgh, Pa. Southern Iron & Equipment Co., Atlanta, Ga.

**RAILWAY.** Baldwin Locomotive Wks., The, Philadelphia, Pa. Lima Locomotive Corporation, Lima, O. Porter Co., H. K., Pittsburgh, Pa.

**Looms and Weaving Machinery.** Draper Co., Hopedale, Mass. Mason Machine Works, Taunton, Mass. Saco-Lowell Shops, Boston, Mass.

**Loom Harness.** American Supply Co., Providence, R. I.

**Lubricants.** Albany Lubricating Co., New York, N. Y. Oil Elevator Co., New York, N. Y.

**Lubricants. (Graphite.)** Dixon Crucible Co., Joseph, Jersey City, N. J.

**Lumber.** Industrial Lumber Co., Elizabeth, Ia.

**Lumber. (Creosote.)** American Creosote Works, New Orleans, La.

**Lumber. (Heavy Construction, Pitch Pine, etc.)** Industrial Lumber Co., Elizabeth, Ia. National Lumber & Creosot. Co., Texarkana, Ark.

**Lumber Buggies.** Soule Steam Feed Works, Meridian, Miss.

**Lumber Stackers.** Soule Steam Feed Works, Meridian, Miss.

**Machinery. (Special.)** Biss Co., E. W., Brooklyn, N. Y. Kline, Lewis T., Alpena, Mich. Universal Machine Co., Baltimore, Md.

**Machinery and Supplies. (New and Second Hand Bargains.)** Aetna Purchasing Co., Wheeling, W. Va. Bailey & James, Boiler & Mch., Co., Joplin, Mo. Boston Iron & Metal Co., Balo, Md. Cleveland Belting & Machinery Co., Cleveland, O. Dusen & Son, New York, N. Y. Ehrle Bros. Co., Chicago, Ill. Erie Steel Co., Pittsburgh, Pa. Fetter-Griner Machinery Co., Philadelphia, Pa. Lehman, Charles T., Birmingham, Ala. Lodge & Shipley Mach. Tool Co., Cincinnati, O. Marine Metal & Supply Co., New York, N. Y. Moore & Co., Edgar M., Pittsburgh, Pa.

New River Co., Macdonald, W. Va. Kusman Tool Co., H. W., Fort Wayne, Ind. Phenix-Hawthorne Engineering Co., Chicago, Ill. Power Equipment Co., New York, N. Y. Prentiss Tool & Supply Co., New York, N. Y. Randle Machinery Co., Cincinnati, O. Read Co., Howard W., Philadelphia, Pa. Sachse & Co., George, Philadelphia, Pa. Samuel, Frank, Philadelphia, Pa. Seydel's Sons, Inc., L. E., Philadelphia, Pa. Southern Mchry. Exchange, Jacksonville, Fla. South Side Fdry. & Mch. Co., Charleston, W. Va. Stearns, John C., Kansas City, Mo. Stewart, Paul, Cincinnati, O. Tamm, Mchry. Eng., Tampa, Fla. Toomey, Mchry. Eng., Philadelphia, Pa. Wilson Mchry. Co., Harold, R., St. Louis, Mo. Winterer Co., Herman L., Philadelphia, Pa.

**Machine Tools.** Garrett Attachment Co., Nashville, Tenn. Gravels, Kusman Tool Co., The, Cincinnati, O.

**Machinists. (Engineers.)** Universal Machine Co., Baltimore, Md.

**Magnesia Materials.** Johns-Manville Co., H. W., New York, N. Y.

**Magnetic Separators.** Buchanan & Co., Inc. O. G., New York, N. Y.

**Mall Chutes.** Cutler Mail Chute Co., Rochester, N. Y.

**Mechanical Draft.** Buffalo Forge Co., Buffalo, N. Y. Sturtevant Co., B. F., Hyde Park, Boston, Mass.

**Metal Ceilings. (See Ceilings, Metal.)**

**Metaline.** Metaline Co., Long Island City, N. Y.

**Metal. (For Tanks, Utvets, Roofing, etc.)** Portsmouth Steel Co., Portsmouth, O.

**Metal Culverts. (See Utvets.)** (Corrugated Metal.)

**Metal Shingles. (See Shingles.)** (Metal.)

**Metal Window Frames and Sash.** [See Window Frames and Sash.] (Fireproof.)

**Metal Work.** [See Sheet Metal Work.]

**Metal-Working Machinery. (Sheet.)** Bliss Co., E. W., Brooklyn, N. Y.

**Meters. (Water.)** Alberger Pump & Condenser Co., New York, N. Y.

**Meter Boxes, Couplings, Gauges. (Water.)** Clark Co., H. W., Mattoon, Ill.

**Micrometers, Callipers, etc.** Starrett Co., L. S., Athol, Mass.

**Milk Filters.** (Liquor, Milk, etc.) International Filter Co., Chicago, Ill.

**Mill Engineers and Architects.** O'Briant, W. C., Memphis, Tenn. Shirane, J. E., Greenville, S. C.

**Mill Supplies.** Bailey-Lobby Co., Charleston, S. C. Cameron & Barkley Co., Charleston, S. C. Gainesville Iron Works, Gainesville, Ga. Lombard Iron Works, Augusta, Ga. Lunkenheimer Co., The, Cincinnati, O. McKechnie Foundry Works, Charlotte, N. C. Salem Foundry & Machine Wks., Salem, Va. Starr Co., H. F., Baltimore, Md. Wolf Co., Chambersburg, Pa.

**Mining Machinery.** (Gold, Copper, Plate, etc.) Hartlett & Snow Co., C. O., Cleveland, O. Jaffe Mfg. Co., Columbus, O. McLean-Stone Mach. Co., Hollidaysburg, Pa. Mecklenburg Iron Works, Charlotte, N. C. Raymond Bros. Impact Pulley Co., Chicago, Ill.

**Mixers. (Concrete.)** Milwaukee Concrete Mixer Co., Milwaukee, Wis. Standard Scale & Supply Co., Pittsburgh, Pa. Van Duzen, Roy Co., The, Columbus, O.

**Mixing Machinery.** Dunning, W. D., Syracuse, N. Y.

**Mortar Colors.** Chattanooga Paint Co., Chattanooga, Tenn.

**Motor Trucks. (Gasoline.)** White Co., The, Cleveland, O.

**Motor Trucks (Second Hand.)** Mar-Dei Mobile Co., Baltimore, Md.

**Municipal Castings.** Clarksville Fdry. & Mach. Works., Clarksville, Tenn.

**Music Wires.** American Steel & Wire Co., Chicago, Ill. Waterbury Co., The, New York, N. Y.

**Nails. (Out.)** La Belle Iron Works, Steubenville, O.

**Nails and Spikes.** La Belle Iron Works, Steubenville, Ohio. Republic Iron & Steel Co., Youngstown, O. Youngstown Sheet & Tube Co., Youngstown, O.

**Nuts. (See Bolts, Nuts, Rivets, etc.)**

**Office Furniture (Steel)** Merritt & Co., Camden, N. J.

**Oil. (Creosote.)** Barrett Mfg. Co., Philadelphia, Pa.

**Oils. (Lubricating, Etc.)** Albany Lubricating Co., New York, N. Y. Galena Signal Oil Co., Franklin, Pa. Gulf Refining Co., Pittsburgh, Pa. Robinson & Son Co., Wm. C., Baltimore, Md.

**Oil Cans.** Wall Mfg. Supply Co., P., Allegheny, Pa.

**Oil Engines. (See Engines (Oil).)**

**Oil Separators.** Stewart Heater Co., Buffalo, N. Y.

**Oil Well Machinery.** Keystone Steam Well Mach. Co., Beaver Falls, Pa. Williams Bros., Ithaca, N. Y.

**Ore Handling Machinery. (See Coal Handling Machinery.)**

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Kelly Springfield Road Roller Co., Springfield, O.  
Ohio Tractor-Roller Sales Co., Columbus, Ohio.  
Universal Road Mch. Co., Kingston, N. Y.

**Road Oil.**  
Gulf Refining Co., Pittsburgh, Pa.  
Standard Oil Co., Inc., Newark, N. J.  
U. S. Asphalt Refining Co., New York, N. Y.

**Road Preservatives.**  
Barrett Mfg. Co., Philadelphia, Pa.  
Gulf Refining Co., Pittsburgh, Pa.  
Standard Oil Co., Inc., Newark, N. J.  
U. S. Asphalt Refining Co., New York, N. Y.

**Road Scarifiers.**  
Buffalo Steam Roller Co., Buffalo, N. Y.  
Galon Iron Works & Mfg. Co., The, Galion, Ohio.

**Rock Crushers.** [See Crushers, Rock.]

**Roller Covering Supplies.**  
American Supply Co., Providence, R. I.

**Roofing.** (Ready Prepared: Felt, Tar, Asbestos, Asphalt.)  
American Sheet & Tin Plate Co., Pittsburgh, Pa.  
Asbestos Protection Metal Co., Pittsburgh, Pa.  
Barrett Mfg. Co., Philadelphia, Pa.  
Cameron & Barkley Co., Charleston, S. C.  
Fairbanks-Morse & Co., Atlanta, Ga.  
Foster Co., L. H., Pittsburgh, Pa.  
Georgia Gas & Locomotive Co., Atlanta, Ga.  
Hirsch Rolling Mill Co., St. Louis, Mo.  
Hoffman & Co., Inc., R. C., Baltimore, Md.  
Hyde, Chas., Pittsburgh, Pa.  
Kirby Frog & Switch Co., Birmingham, Ala.  
Macleary, J. H., Suffolk, Va.  
National Steel Rail Co., St. Louis, Mo.  
Newhall Eng. Co., Geo. M., Philadelphia, Pa.  
Read Co., Howard W., Philadelphia, Pa.  
Robinson & Orr, Pittsburgh, Pa.  
Sherwood, E. C., New York, N. Y.  
Southwestern & Equipment Co., Atlanta, Ga.  
Steel Rail Supply Co., The New York, N. Y.  
Thad Williams, Cincinnati, Ohio.  
United States Rail Co., Cumberland, Md.  
Weir Frog Co., Cincinnati, O.  
Wilson & Co., E. H., Philadelphia, Pa.  
Wilson Mach. Co., Harold R., St. Louis, Mo.  
Wood's Sons Co., T. B., Chambersburg, Pa.

**Rope.** (Manila, Sisal, Hemp, etc.)  
Broderick & Bascom Rope Co., St. Louis, Mo.  
Columbian Rope Co., Auburn, N. Y.  
Hirsch Rolling Mill Co., St. Louis, Mo.  
Hyde, Chas., Pittsburgh, Pa.  
Kirby Frog & Switch Co., Birmingham, Ala.  
Macleary, J. H., Suffolk, Va.  
National Steel Rail Co., St. Louis, Mo.  
Newhall Eng. Co., Geo. M., Philadelphia, Pa.  
Read Co., Howard W., Philadelphia, Pa.  
Robinson & Orr, Pittsburgh, Pa.  
Sherwood, E. C., New York, N. Y.  
Southwestern & Equipment Co., Atlanta, Ga.  
Steel Rail Supply Co., The New York, N. Y.  
Thad Williams, Cincinnati, Ohio.  
United States Rail Co., Cumberland, Md.  
Weir Frog Co., Cincinnati, O.  
Wilson & Co., E. H., Philadelphia, Pa.  
Wilson Mach. Co., Harold R., St. Louis, Mo.  
Wood's Sons Co., T. B., Chambersburg, Pa.

**Rope.** (Wire.)  
Broderick & Bascom Rope Co., St. Louis, Mo.  
Hunt Co., Inc., C. W., West New Brighton, N. Y.  
Waterbury Co., New York, N. Y.

**Rope Drives.**  
Caldwell & Son, H. W., Chicago, Ill.  
Cresson-Morris Co., Philadelphia, Pa.  
Jones & Laughlin Steel Co., Pittsburgh, Pa.  
Medart Patent Pulley Co., St. Louis, Mo.  
Waterbury Co., New York, N. Y.  
Wood's Sons Co., T. B., Chambersburg, Pa.

**Rubber Goods.**  
Eureka Fire Hose Mfg. Co., New York, N. Y.

**Rules.** (Steel.)  
Lufkin Rule Co., Saginaw, Mich.  
Starrett Co., L. S., Athol, Mass.

**Safes and Vaults.**  
York Safe & Lock Co., York, Pa.

**Sand.**  
Arundel Sand & Gravel Co., Baltimore, Md.  
Kirkpatrick Sand & Cement Co., Birmingham, Ala.

**Sand.** (Foundry.)  
Newport Sand Bank Co., Inc., Newport, Ky.

**Sap Stain Preventive.**  
Church & Dwight Co., New York, N. Y.

**Sash Chain.**  
Niagara Falls Metal Stamping Works, Niagara Falls N. Y.

**Saws.**  
Gorlaich Co., Peter, Cleveland, O.  
Hether Bros. Saw Mfg. Co., Inc., Rochester, N. Y.  
Smith Machine Co., H. B., Smithville, N. J.

**Saws.** (Band.)  
Smith Machine Co., H. B., Smithville, N. J.

**Saws.** (Hack.)  
Starrett Co., L. S., Athol, Mass.

**Sawmill Dogs.**  
Boile Steam Feed Works, Meridian, Miss.

**Sawmills.**  
Gainesville Iron Works, Gainesville, Ga.  
Gibbs Machinery Co., Inc., Columbia, S. C.  
Knight Mfg. Co., Canton, O.  
Lane Mfg. Co., Montpelier, Vt.

**Sawmill Machinery.**  
Bailey-Lebby Co., Charleston, S. C.  
Cameron & Barkley Co., Charleston, S. C.  
Ohio Turbine Mfg. Co., Orange, Mass.  
High Mfg. Co., Canton, O.  
Lane Mfg. Co., Montpelier, Vt.  
Mechanizing Iron Works, Charlotte, N. C.  
Schofield Iron Works, Macon, Ga.  
Southern Engine & Boiler Wks., Jackson, Tenn.

**Saw Sharpeners.**  
Carborundum Co., Niagara Falls, N. Y.  
Vitrified Wheel Co., Westfield, Mass.

**Saw Sharpeners and Files.** (Cotton Gin.)  
Carver Cotton Gin Co., East Bridgewater, Mass.

**Sawing Outfits.** (Contractors and Industrial.)  
Rutland Foundry & Machine Co., Bennington, Vt.

**Scales.**  
Standard Scale & Supply Co., Pittsburgh, Pa.

**Screens.** (Fly, Window and Door.)  
Cincinnati Mfg. Co., Cincinnati, O.  
New Jersey Wire Cloth Co., Trenton, N. J.

**Screens.** (Mining, Stone, etc.)  
Erdie Perforating Co., Rochester, N. Y.  
Hendrick Mfg. Co., Carbondale, Pa.  
Jeffrey Mfg. Co., Columbus, O.  
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.  
Mundt & Sons, Charles, Jersey City, N. J.  
New Jersey Wire Cloth Co., Trenton, N. J.

**Screenings.** (For Concrete and Road Construction.)  
American Ballast Co., Knoxville, Tenn.

**Screws.** (Machine.)  
Progressive Mfg. Co., Torrington, Conn.

**Screws.** (Safety Set.)  
Allen Manufacturing Co., Inc., Hartford, Conn.

**Screw Machine Products.**  
Progressive Mfg. Co., Torrington, Conn.

**Separators.** (Dust.)  
Buffalo Forge Co., Buffalo, N. Y.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.

**Sewer Flushing Siphons.**  
Pacific Flush Tank Co., New York, N. Y.

**Sewer Joint Compounds.**  
Pacific Flush Tank Co., New York, N. Y.

**Sewer Pipe.** (Vitrified.)  
Bannon Pipe Co., F., Louisville, Ky.  
Blackmer & Post Pipe Co., St. Louis, Mo.  
Cannelton Sewer Pipe Co., Cannelton, Ind.  
Owensboro Sewer Pipe Co., Owensboro, Ky.  
Pomona Terra-Cotta Co., Pomona, N. C.  
Southern Sewer Pipe Co., Birmingham, Ala.  
Stevens Sons Co., H., Macon, Ga.

**Sewer Pipe and Drains.** (Monolithic Concrete)  
Reinhardt Co., O. W., Charlotte, N. C.

**Sewer Supplies.**  
Clarksville Fdry. & Mach. Works, Clarksville, Tenn.

**Sewage Pumping and Disposal Apparatus.**  
Pacific Flush Tank Co., New York, N. Y.

**Shafting.** (Gold Rolled Steel.)  
American Steel & Wire Co., Chicago, Ill.

**Shafting.** (Polished Steel.)  
Jones & Laughlin Steel Co., Pittsburgh, Pa.  
Medart Patent Pulley Co., St. Louis, Mo.  
Pardes Works Co., Perth Amboy, N. J.  
Republic Iron & Steel Co., Youngstown, O.  
Union Drawn Steel Co., Beaver Falls, Pa.

**Shafting.** [See Pulleys, Shafting and Hangers.]

**Sharpening Stones.**  
Carborundum Co., Niagara Falls, N. Y.  
Vitrified Wheel Co., Westfield, Mass.

**Sheet Brass and Copper.**  
McKenna Bros. Brass Co., Pittsburgh, Pa.

**Sheet Metal Work.**  
Atlas Metal Works, Dallas, Tex.  
Danzer Metal Works, Hagerstown, Md.  
Dixie Culvert & Metal Co., Atlanta, Ga.  
Lone Star Culvert Co., Houston, Tex.  
McMillan Bros., Jacksonville, Fla.  
Niagara Falls Metal Stamping Works, Niagara Falls, N. Y.  
Salisbury Metal Culvert Co., Salisbury, N. C.  
South Atlantic Blow Pipe & Sheet Metal Co., Savannah, Ga.  
Steel Products Co., The, Savannah, Ga.  
Tennessee Metal Culvert Co., Nashville, Tenn.  
Virginia Metal & Culvert Co., Roanoke, Va.  
Voigtmann & Co., Chicago, Ill.

**Sheet Metal Working Machinery.**  
Bliss Co., E. W., Brooklyn, N. Y.

**Steel.** (Tool.)  
Bonne-Fuller Co., The, Cleveland, Ohio.  
McKenna Bros. Brass Co., Pittsburgh, Pa.  
Union Drawn Steel Co., Beaver Falls, Pa.

**Steel.** (Vanadium.)  
Union Drawn Steel Co., Beaver Falls, Pa.

**Sheet Steel and Iron.**  
American Sheet & Tin Plate Co., Pittsburgh, Pa.  
Cincinnati Iron & Steel Co., Cincinnati, O.  
La Belle Iron Works, Steubenville, O.  
Portsmouth Steel Co., Portsmouth, O.  
Republic Iron & Steel Co., Youngstown, O.  
Southern Sheet & Tin Plate Co., Ashland, Ky.  
Tennessee Coal, Iron & R. R. Co., B'ng'h'm, Ala.  
Wood Iron & Steel Co., Alan, Philadelphia, Pa.  
Youngstown Sheet & Tube Co., Youngstown, O.

**Sheeting.** [(Steel) Vault, Store, Etc.]  
Merritt & Co., Camden, N. J.  
Van Harlingen, J. M., Atlanta, Ga.

**Shingles.** (Metal.)  
Cortright Metal Roofing Co., Philadelphia, Pa.  
Edwards Mfg. Co., Cincinnati, O.  
Hyndman Roofing Co., Cincinnati, O.  
Southern Sheet & Tin Plate Co., Ashland, Ky.

**Show Furniture.** (Steel.)

**Shovels.** (Special for Any Purpose.)  
Conneaut Shovel Co., The, Conneaut, Ohio.

**Shovels.** (Steel, Brass, Aluminum, etc.)  
Conneaut Shovel Co., The, Conneaut, Ohio.

**Shutters.** (Iron.)  
Boiles Iron & Wire Works, J. E., Detroit, Mich.  
Chesapeake Iron Works, Baltimore, Md.

**Shutters.** (Steel Rolling.)  
Kinnear Mfg. Co., Columbus, O.

**Shutters.** (Tim Glad.)  
Victor Mfg. Co., Newburyport, Mass.

**Silos.** (Metal.)  
Dixie Culvert & Metal Co., Atlanta, Ga.

**Skilights and Cornices.**  
Danzar Metal Works, Hazertown, Md.

**State.** (Roofing, Sanitary, Structural, etc.)  
East Bangor Cons. slate Co., East Bangor, Pa.  
Genuine Bangor slate Co., Easton, Pa.  
Johnson, E. J., New York, N. Y.

**Sluice Gates and Appliances.**  
Goldwell-Wilcox Co., Newburgh, N. Y.

**Smokestacks.** (Iron and Steel.)  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Des Moines Bridge & Iron Co., Des Moines, Ia.  
Keeler Co., E., Williamsport, Pa.  
Lombard Iron Works, Angusta, Ga.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Schofield Iron Works, Macon, Ga.  
Virginia Bridge & Iron Co., Roanoke, Va.

**Soda.** (Bicarbonate.)  
Church & Dwight Co., New York, N. Y.

**Speed Changes.** (Variable.)  
Moore & White Co., The, Philadelphia, Pa.

**Speed Reducing Transmissions.**  
James Mfg. Co., D. O., Chicago, Ill.

**Spikes.** (Railroad.)  
Hoffman & Co., Inc., R. C., Baltimore, Md.  
Newhall Eng. Co., Geo. M., Philadelphia, Pa.

**Spikes.** [See Nails and Spikes.]

**Spiral Stairs.**  
Merritt & Co., Camden, N. J.

**Spreaders.** (Road.)  
Troy-Wagon Works Co., Troy, Ohio.

**Springs.** (Machinery, Railway, Spiral.)  
Gary Spring Works, New York, N. Y.  
Raymond Mfg. Co., Ltd., Corry, Pa.

**Stamp Mills.**  
McKenna Bros. Iron Works, Charlotte, N. C.

**Stamps.** (Brass, Rubber.)  
Baltimore Office Supply Co., Baltimore, Md.

**Standpipes.**  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

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**Standpipes.**  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

**Spring.** (Machinery, Railway, Spiral.)  
Gary Spring Works,

**Steel Buildings.** (Designers, Builders.) Amer. Bridge Co., of New York, N. Y. Belmont Iron Works, Philadelphia, Pa. Champion Bridge Co., Wilmington, Del. Chesapeake Iron Works, Baltimore, Md. Des Moines Bridge & Iron Co., Des Moines, Ia. Phoenix Iron Co., Philadelphia, Pa. Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa. Richmond Structural Steel Co., Richmond, Va. Schreiber & Sons Co., The L., Cincinnati, O. Smeal Architectural Iron Works, Louisville, Ky. Turner, C. A. F., Minneapolis, Minn. Virginia Bridge & Iron Co., Roanoke, Va.

**Steel Castings.**

Greble Steel Castings Co., Lansdowne, Pa. Hoffman & Co., Inc., R. C., Baltimore, Md. Riverside Steel Casting Co., Newark, N. J.

**Steel Plate Work.**

Geary-Hedges Co., Chattanooga, Tenn. Chattanooga Boiler & Tank Co., Chat'n'ga, Tenn. Coatesville Boiler Works, Coatesville, Pa. Hoffman & Co., Inc., R. C., Baltimore, Md. Memphis Steel Construction Co., Memphis, Tenn. Phoenix Iron Co., Philadelphia, Pa. Struthers-Wells Co., Warren, Pa.

**Steel Protector.** (Concrete Curb, Steps, etc.) [See Curb Protector Steel.]**Steel Sheet Piling.**

Frank, J. E., Atlanta, Ga. Jones & Laughlin Steel Co., Pittsburgh, Pa. Lackawanna Steel Co., Lackawanna, N. Y.

**Stencils.**

Baltimore Office Supply Co., Baltimore, Md. Stills. (Tarpentine.) McMillan Bros., Jacksonville, Fla.

**Stirrups.** (Building.)

Chesapeake Iron Works, Baltimore, Md.

**Stock Certificates, Bonds and Seals.**

Baltimore Office Supply Co., Baltimore, Md. Stock Room Racks, Bins, Etc.

**Stokers.** (Hand.)

Huber Grate Bar & Stoking Co., Baltimore, Md. Stokers. (Mechanical.)

Babcock & Wilcox Co., New York, N. Y. Westinghouse Machine Co., Pittsburgh, Pa.

**Stone.** (Building.)

Athletic Stone Co., Atlanta, Ga. Bedford Steam Stone Works, Bedford, Ind. Kirkpatrick Sand & Cement Co., Birmingham, Ala. Stone. (Crushed.) [See Crushed Stone.]

**Stone and Gravel Plants.**

Weller Mfg. Co., Chicago, Ill.

**Storage Batteries.**

Gen. Storage Battery Co., The, Philadelphia, Pa. Westinghouse Machine Co., Pittsburgh, Pa.

**Strapping Leather.**

Rank & Knight Mfg. Co., Worcester, Mass. Structural Steel and Iron.

Allegheny Steel Co., Pittsburgh, Pa. Bridge & Iron Co., New York, N. Y. Belmont Iron Works, Philadelphia, Pa. Bourne-Fuller Co., The, Cleveland, Ohio. Champion Bridge Co., Wilmington, Del. Chesapeake Iron Works, Baltimore, Md. Chicago Bridge & Iron Works, Chicago, Ill. Cincinnati Iron & Steel Co., Cincinnati, O. Des Moines Bridge & Iron Co., Des Moines, Ia. Dierlich Bros., Baltimore, Md. East St. Louis Bridge Co., East St. Louis, Ill. Granger & Co., Louisville, Ky. Greenston's Sons Iron & Steel Co., Jos., St. Louis, Mo.

Hannan & Co., Inc., R. C., Baltimore, Md. Jones & Laughlin Steel Co., Pittsburgh, Pa. Lackawanna Steel Co., Lackawanna, N. Y. Oregon Bridge Co., Lebanon, Ohio. Memphis Steel Construction Co., Memphis, Tenn. Phoenix Iron Co., Philadelphia, Pa. Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa. Republic Iron & Steel Co., Youngstown, O. Richmond Structural Steel Co., Richmond, Va. Scaife & Sons Co., Wm. B., Pittsburgh, Pa. Schreiber & Sons Co., The L., Cincinnati, O. Smeal Architectural Iron Works, Louisville, Ky. Southern Sheet & Tin Plate Co., Ashland, Ky. Steel Products Co., The, Savannah, Ga. Tennessee Coal, Iron & R. R. Co., Birn'g'h'm, Ala. Vincennes Bridge Co., Vincennes, Ind. Virginia Bridge & Iron Co., Roanoke, Va.

**Stamp Pullers.**

Immerman Steel Co., Lone Tree, Iowa.

**Sulphur.**

Union Sulphur Co., New York, N. Y.

**Super-Heaters. (Steam.)**

Babcock & Wilcox Co., New York, N. Y.

Power Specialty Co., New York, N. Y.

**Surveying Instruments.**

Weber & Co., Philadelphia, Pa.

**Sweeping Compound.**

Kildust Co., Rome, Ga.

**Swinging Engines.**

Dale Engine Co., Grand Haven, Mich.

**Switchboards, Switches, etc.**

General Electric Co., Schenectady, N. Y.

**Switches. [See Railroad Fuses and Switches.]****Switchstands.**

Welt Frog Co., Cincinnati, O.

**Tackle Blocks. (For Wire or Manilla Rope.)**

Broderick & Bascom Ropes Co., St. Louis, Mo.

**Talc and Soapstone Powders.**

Georgia Talc Co., Ashville, N. C.

**Tanks (Iron and Steel.)**

American Bridge Co., New York, N. Y. American Water Softener Co., Philadelphia, Pa. Caldwell Co., Inc., W. E., Louisville, Ky. Colgate Co., Cincinnati, O. Chattanooga Boiler & Iron Co., Chat'n'ga, Tenn. Chicago Bridge & Iron Works, Chicago, Ill. Cole Mfg. Co., R. E., Newnan, Ga. Dixie Calvert & Metal Co., Atlanta, Ga. Harry Bros. Co., New Orleans, La. Hartley Boiler Works, Montgomery, Ala. Hendricks Mfg. Co., E., Carbondale, Pa. Keeler Co., E., Williamsport, Pa. Keystone Boiler & Foundry Co., Columbia, Pa. Lombard Iron Works, Augusta, Ga. Lookout Boiler & Mfg. Co., Chattanooga, Tenn. Martin Steel Construction Co., Memphis, Tenn. New York Central Iron Works Co., Hagerstown, Md. Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa. Schenck Iron Works Co., Cincinnati, O. Struthers-Wells Co., Warren, Pa. Tennessee Metal Galfert Co., Nashville, Tenn. Twin City Boiler Works, Bristol, Va.-Tenn. Virginia Bridge & Iron Co., Roanoke, Va. Walsh & Weidner Boiler Co., Chattanooga, Tenn.

**Tanks. (Wood.)**

Caldwell Co., Inc., W. E., Louisville, Ky. Davis & Son, G. M., Palatka, Fla.

**Tapes. (Measuring.)**

Lufkin Rule Co., Saginaw, Mich. Starrett Co., L. S., Athol Mass.

**Telephones. (Supplies, Equipment.)**

Piedmont Electric Co., Asheville, N. C. Western Electric Co., New York, N. Y.

**Telephone Service.**

American Telephone & Telegraph Co.

**Tenor.** (Box and Crate.)

Chase Turbine Mfg. Co., Orange Mass.

**Terra-Cotta. (Ornamental.)**

Atlanta Terra-Cotta Co., Atlanta, Ga. Maryland Terra-Cotta Co., Baltimore, Md. Pomona Terra-Cotta Co., Pomona, N. C. Southern Building Material Co., Norfolk, Va. Stevens Sons Co., H., Macon, Ga.

**Threshers.**

Cardwell Machine Co., Richmond, Va.

**Tiering Machines. (Portable.)**

Economy Engineering Co., Chicago, Ill.

**Tile (Drain)**

Oconee Brick & Tile Co., Milledgeville, Ga.

**Tile (Interior)**

Amer. Enam. Brick & Tile Co., New York, N. Y. F & T Co., Birmingham, Ala.

**Tile (Mantel and Promenade.)**

Hood Brick Co., B. Mifflin, Atlanta, Ga.

**Tile (Structural)**

Oconee Brick & Tile Co., Milledgeville, Ga.

**Timbers. (Grooved.)**

American Oresos Works, New Orleans, La. Republic Oresos Co., Indianapolis, Ind.

**Stone. (Building.)**

Athletic Stone Co., Atlanta, Ga. Bedford Steam Stone Works, Bedford, Ind. Kirkpatrick Sand & Cement Co., Birmingham, Ala.

**Stone. (Crushed.)**

Bedford Steam Stone Works, Bedford, Ind. Kirkpatrick Sand & Cement Co., Birmingham, Ala.

**Stone and Gravel Plants.**

Weller Mfg. Co., Chicago, Ill.

**Storage Batteries.**

Gen. Storage Battery Co., The, Philadelphia, Pa. Westinghouse Machine Co., Pittsburgh, Pa.

**Strapping Leather.**

Rank & Knight Mfg. Co., Worcester, Mass.

**Structural Steel and Iron.**

Allegheny Steel Co., Pittsburgh, Pa. Bridge & Iron Co., New York, N. Y.

**Stokes. (Hand.)**

Huber Grate Bar & Stoking Co., Baltimore, Md.

**Stokers. (Mechanical.)**

Babcock & Wilcox Co., New York, N. Y.

**Stock Certificates, Bonds and Seals.**

Baltimore Office Supply Co., Baltimore, Md.

**Stock Room Racks, Bins, Etc.**

Merritt & Co., Camden, N. J.

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**Stokers. (Mechanical.)**

Babcock & Wilcox Co., New York, N. Y.

**Stock Certificates, Bonds and Seals.**

Baltimore Office Supply Co., Baltimore, Md.

**Stock Room Racks, Bins, Etc.**

Merritt & Co., Camden, N. J.

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